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=> d full his

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     FILE 'REGISTRY' ENTERED AT 10:10:47 ON 06 FEB 2003
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                 D

     FILE 'HCAPLUS' ENTERED AT 10:11:15 ON 06 FEB 2003

     FILE 'REGISTRY' ENTERED AT 10:11:18 ON 06 FEB 2003
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L2               SEL PLU=ON  L1 1- CHEM :       2 TERMS
                 SET SMARTSELECT OFF

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L3          1177 SEA ABB=ON  PLU=ON  L2
L4             4 SEA ABB=ON  PLU=ON  L3 (L) (THIN (L) LAY? (L) CHROMATOGR?)
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=> d iall 1-4

L4 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1978:454531 HCAPLUS
DOCUMENT NUMBER: 89:54531
TITLE: 2,4,5-**Trichlorophenoxyacetic acid.** Synthesis and **thin-layer chromatography** properties of amino acid conjugates and gas-liquid **chromatography** and mass spectra of methyl ester derivatives
AUTHOR(S): Arjmand, Masood; Hamilton, Robert H.; Mumma, Ralph O.
CORPORATE SOURCE: Grad. Study Cent., Pennsylvania State Univ., University Park, PA, USA
SOURCE: Journal of Agricultural and Food Chemistry (1978), 26(4), 898-902
CODEN: JAFCAU; ISSN: 0021-8561
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 5-1 (Agrochemicals)
Section cross-reference(s): 9

ABSTRACT:
Fourteen amino acid conjugates of 2,4,5-trichlorophenoxyacetic acid [93-76-5] were synthesized and characterized by thin-layer chromatog. The Me esters of the conjugates were prepd. and analyzed by gas-liq. chromatog. (GLC) and by mass spectrometry. A GLC method was developed employing a 2% OV-1 column and temp. programming conditions that could be used to analyze for 13 of the conjugates. Proline and aspartate derivs. overlapped. All the Me ester derivs. of the conjugates exhibited mass spectral fragmentation patterns characteristic of the specific conjugate and most compds. gave mol. ions.

SUPPL. TERM: trichlorophenoxyacetate amino acid conjugate prepn; gas chromatog trichlorophenoxyacetate amino acid conjugate; mass spectrometry trichlorophenoxyacetate amino acid conjugate; chromatog trichlorophenoxyacetate amino acid conjugate; spectrometry trichlorophenoxyacetate amino acid conjugate; amino acid trichlorophenoxyacetate conjugate mass spectra

INDEX TERM: Mass spectra
(of trichlorophenoxyacetyl amino acid Me esters)

INDEX TERM: Chromatography, gas
Chromatography, thin-layer
(of trichlorophenoxyacetyl amino acids)

INDEX TERM: Amino acids, analysis
(N-(trichlorophenoxyacetyl), chromatog. of)

INDEX TERM: 93-76-5 93-76-5D, reaction products with amino acids
5447-11-0 6293-99-8 66789-75-1 66789-76-2 66789-77-3
66789-78-4 66789-79-5 66789-80-8 66789-81-9
66789-82-0 66789-83-1 66850-94-0 66850-95-1
66850-96-2
ROLE: ANT (Analyte); ANST (Analytical study)
(chromatog. of)

INDEX TERM: 1928-37-6 66789-84-2 66789-85-3 66789-86-4
66789-87-5 66789-88-6 66789-89-7 66789-90-0
66789-91-1 66789-92-2 66789-93-3 66789-94-4
66789-95-5 66789-96-6 66789-97-7
ROLE: PRP (Properties)
(mass spectrum of)

INDEX TERM: 777-08-2
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with amino acids)

L4 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1971:110709 HCAPLUS
DOCUMENT NUMBER: 74:110709
TITLE: Microbial cometabolism of 2,4,5-trichlorophenoxyacetic acid
AUTHOR(S): Horvath, Raymond S.
CORPORATE SOURCE: Dep. Agron., Cornell Univ., Ithaca, NY, USA
SOURCE: Bulletin of Environmental Contamination and Toxicology (1970), 5(6), 537-41

CODEN: BECTA6; ISSN: 0007-4861
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 18 (Plant Growth Regulators)
GRAPHIC IMAGE: For diagram(s), see printed CA Issue.
ABSTRACT:
An organism isolated by enrichment culture technique and maintained in a benzoate-salt medium and identified as a Brevibacterium species was capable of cometabolizing 2,4,5-**trichlorophenoxyacetic acid** (I), consuming 1 .mu.mole O2 and releasing 1 .mu.mole Cl2 as inorg. Cl/.mu.mole of herbicide oxidized. I oxidn. by resting cells suspensions of benzoategrown cells occurred without an initial adaptive lag period, indicating that the enzyme catalyzed initial oxidn. was constitutive or was induced by growth on benzoic acid. The adaptive lag period between at 1st and 2nd rise in O2 uptake was reproducible in 4 expts. at 30-40 min and suggested that the enzyme involved in the 2nd oxidn. is different from that which catalyzed the 1st. The Arnow-pos. material detected in the culture supernatant when I oxidn. was complete was tentatively identified as 3,5-dichlorocatechol by the Rf values on ***thin*** **-layer chromatograms** in 3 solvents systems.
Inability of a microorganism to grow at the expense of an org. compd. apparently no longer suggests that the compd. is recalcitrant or the microorganism fallible, but under the correct environmental conditions most if not all org. compds. can be degraded by complete mineralization of the mol. or by the cometabolism.

SUPPL. TERM: cometab trichlorophenoxyacetate microbes; pesticides cometab microbes; ecol org compds degrdn
INDEX TERM: Brevibacterium
(trichlorophenoxyacetic acid cometabolism by)
INDEX TERM: 93-76-5
ROLE: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(metabolism of, by Brevibacterium)

L4 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1969:402448 HCAPLUS
DOCUMENT NUMBER: 71:2448
TITLE: Chromatographic technique for the separation and identification of halogenated aromatic pesticides and herbicides
AUTHOR(S): Ceresia, George B.; Sanderson, Wallace W.
CORPORATE SOURCE: New York State Dep. of Health, Albany, NY, USA
SOURCE: Journal - Water Pollution Control Federation (1969), 41(2)(Pt. 2), R34-R43
CODEN: JWPFA5; ISSN: 0043-1303
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 19 (Pesticides)
ABSTRACT:
A new technique for **thin-layer** and paper chromatog. to sep. and identify halogenated aromatic pesticides and herbicides in mg./l. concn. is described. The method designated as tri-gradient tri-chromatog. (TGT) and digradient di-**chromatographic** (DGD) chromatog., has proven successful in sepg. and identifying 2 herbicides, 2,4-D and 2,4,5-***trichlorophenoxyacetic*** **acid** (2,4,5-T), in several 5-membered mixts. contg. pesticides. Equipment, chem. reagents and prepn. of ***chromatograms*** are described in detail. An illustration of a ***chromatogram*** is also presented. The method is useful in sepg. the polyhalogenated pesticides from the di-, tri-, and tetra-halogenated types such as Perthane, methoxychlor, and Rhothane. The method has also been instrumental in sepg. difficult pairs such as dieldrin-endrin, Perthane-chlordane, and chlordane-DDT, each pair as part of a many-membered mixt. and all in mg./l. concn. Although the technique is yet to be investigated in greater detail over a no. of other classes of pesticides and herbicides, intensive study of 14 chlorinated aromatic pesticides and herbicides as well as preliminary trials with one of the carbamates, Sevin, and one of the phosphothioates, malathion, shows the method to be a valuable anal. tool.

SUPPL. TERM: chromatog pesticides; pesticides chromatog; herbicides

chromatog; halogenated pesticides anal

INDEX TERM: Herbicides
Pesticides
(halogenated, chromatog. of)

INDEX TERM: Toxaphene
ROLE: ANT (Analyte); ANST (Analytical study)
(chromatog. of)

INDEX TERM: 50-29-3, analysis 57-74-9 58-89-9, analysis 60-57-1
72-20-8 72-43-5 72-54-8 72-56-0 76-44-8 93-76-5
94-75-7, analysis 115-29-7 309-00-2
ROLE: ANT (Analyte); ANST (Analytical study)
(chromatog. of)

L4 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1965:85984 HCAPLUS
DOCUMENT NUMBER: 62:85984
ORIGINAL REFERENCE NO.: 62:15358f-g
TITLE: Thin-layer chromatographic behavior of compounds effective as herbicides
AUTHOR(S): Henkel, Hanns G.
CORPORATE SOURCE: Biol. Bundesanstalt Land Forstwirtschaft, Berlin
SOURCE: Chimia (Aarau) (1965), 19(3), 128-31
DOCUMENT TYPE: Journal
LANGUAGE: German
CLASSIFICATION: 71 (Plant-Growth Regulators)
ABSTRACT:
Several systems for sepn. and detn. of herbicide compds. using **thin ***layer*** chromatography** are described. Plate materials (silica gel G or polyamide powder), pretreatment, liquid phases, Rf values, and reagents for detection are given for 2-methyl-4-chloro, 2,4-dichloro-, and 2,4,5-**trichlorophenoxyacetic acids**, 2-, 3-(2-methyl-4-chlorophenoxy)-, 2-(2,4-dichlorophenoxy)-, and 2-(2,4,5-trichlorophenoxy)propionic acids, 4-(2-methyl-4-chlorophenoxy)-, 4-(2,4-dichlorophenoxy)-, 4-(2,4,5-trichlorophenoxy)-butyric acids, 3-amino-, 3-nitro-2,5-dichloro-, 2-methoxy-3,6-dichloro-, 2-methoxy-3,5,6-trichloro-, 2,3,6-trichloro-, 4-nitro-, 4-chlorobenzoic acids, and benzoic acid.

INDEX TERM: Herbicides
(chromatography of)

INDEX TERM: Acetic acid, (2,4-dichlorophenoxy)-(2,4-D), 6-chloro-o-tolyl ester
Acetic acid, (2,4-dichlorophenoxy)-(2,4-D), butyl ester
Acetic acid, (2,4-dichlorophenoxy)-(2,4-D), ethyl ester
Acetic acid, (2,4-dichlorophenoxy)-(2,4-D), pentyl ester
Acetic acid, (2,4-dichlorophenoxy)-(2,4-D), propyl ester
(chromatography of)

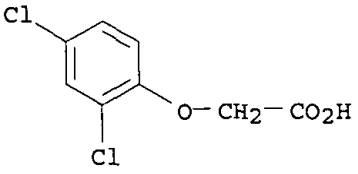
INDEX TERM: 50-31-7, Benzoic acid, 2,3,6-trichloro- 62-23-7, Benzoic acid, p-nitro- 65-85-0, Benzoic acid 74-11-3, Benzoic acid, p-chloro- 88-86-8, Benzoic acid, 2,5-dichloro-3-nitro- 93-65-2, Propionic acid, 2-[(4-chloro-o-tolyl)oxy]- 93-72-1, Propionic acid, 2-(2,4,5-trichlorophenoxy)- 93-76-5, Acetic acid, (2,4,5-trichlorophenoxy)- 93-80-1, Butyric acid, 4-(2,4,5-trichlorophenoxy)- 94-74-6, Acetic acid, [(4-chloro-o-tolyl)oxy]- 94-81-5, Butyric acid, 4-[(4-chloro-o-tolyl)oxy]- 94-82-6, Butyric acid, 4-(2,4-dichlorophenoxy)- 120-36-5, Propionic acid, 2-(2,4-dichlorophenoxy)- 133-90-4, Benzoic acid, 3-amino-2,5-dichloro- 1918-00-9, o-Anisic acid, 3,6-dichloro- 2307-49-5, o-Anisic acid, 3,5,6-trichloro- 2307-66-6, Propionic acid, 3-[(4-chloro-o-tolyl)oxy]-
(chromatography of)

INDEX TERM: 6062-26-6, Butyric acid, 4-[(4-chloro-o-tolyl)oxy]-, sodium salt
(weed control by, in celery)

=> s trichlorophenoxyacetic acid/cn
L9 2 TRICHLOROPHENOXYACETIC ACID/CN

=> d 1

L9 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2003 ACS
RN 35915-18-5 REGISTRY
CN Acetic acid, [2,4,5(or 2,4,6)-trichlorophenoxy]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **Trichlorophenoxyacetic acid**
MF C8 H5 Cl3 O3
CI IDS
LC STN Files: ADISNEWS, AGRICOLA, BIOBUSINESS, BIOSIS, CA, CAPLUS, CHEMLIST, CIN, CSNB, NIOSHTIC, PROMT, TOXCENTER



D1—Cl

12 REFERENCES IN FILE CA (1962 TO DATE)
12 REFERENCES IN FILE CAPLUS (1962 TO DATE)

=> d 2

L9 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2003 ACS
RN 12286-70-3 REGISTRY
CN Acetic acid, (trichlorophenoxy)- (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN **Trichlorophenoxyacetic acid**
MF C8 H5 Cl3 O3
CI IDS
LC STN Files: AGRICOLA, CA, CAPLUS, CIN, IFICDB, IFIPAT, IFIUDB, TOXCENTER

3 (D1—Cl)

D1—O—CH_2—CO_2H

5 REFERENCES IN FILE CA (1962 TO DATE)
5 REFERENCES IN FILE CAPLUS (1962 TO DATE)

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NEWS 7	Apr 22	BIOSIS Gene Names now available in TOXCENTER
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NEWS 11	Jun 10	PCTFULL has been reloaded
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NEWS 13	Jul 22	USAN to be reloaded July 28, 2002; saved answer sets no longer valid
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NEWS 21	Aug 19	The MEDLINE file segment of TOXCENTER has been reloaded
NEWS 22	Aug 26	Sequence searching in REGISTRY enhanced
NEWS 23	Sep 03	JAPIO has been reloaded and enhanced
NEWS 24	Sep 16	Experimental properties added to the REGISTRY file
NEWS 25	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS 26	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS 27	Oct 21	EVENTLINE has been reloaded
NEWS 28	Oct 24	BEILSTEIN adds new search fields
NEWS 29	Oct 24	Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 30	Oct 25	MEDLINE SDI run of October 8, 2002
NEWS 31	Nov 18	DKILIT has been renamed APOLLIT
NEWS 32	Nov 25	More calculated properties added to REGISTRY
NEWS 33	Dec 02	TIBKAT will be removed from STN
NEWS 34	Dec 04	CSA files on STN
NEWS 35	Dec 17	PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS 36	Dec 17	TOXCENTER enhanced with additional content
NEWS 37	Dec 17	Adis Clinical Trials Insight now available on STN
NEWS 38	Dec 30	ISMEC no longer available
NEWS 39	Jan 13	Indexing added to some pre-1967 records in CA/CAPLUS
NEWS 40	Jan 21	NUTRACEUT offering one free connect hour in February 2003
NEWS 41	Jan 21	PHARMAML offering one free connect hour in February 2003
NEWS 42	Jan 29	Simultaneous left and right truncation added to COMPENDEX, ENERGY, INSPEC

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  NEWS EXPRESS  January 6 CURRENT WINDOWS VERSION IS V6.01a,
                CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
                AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002
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                                                        ENTRY    SESSION
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 => s thin layer chromatography or TLC
 L1      167330 THIN LAYER CHROMATOGRAPHY OR TLC

 => s l1 and (trichlorphenoxyacetic acid or 2,4,5-T or trichlorobenze hapten)
 L2          67 L1 AND (TRICHLORPHENOXYACETIC ACID OR 2,4,5-T OR TRICHLOROBENZE
                HAPTEN)

 => s l2 and silica gel
 L3          19 L2 AND SILICA GEL

 => s l3 and chloroform
 L4           0 L3 AND CHLOROFORM

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 PROCESSING COMPLETED FOR L2
 L5          51 DUP REMOVE L2 (16 DUPLICATES REMOVED)
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=> dup remove l3
PROCESSING COMPLETED FOR L3
L6 15 DUP REMOVE L3 (4 DUPLICATES REMOVED)

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L6 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2003 ACS
1997:401417 Document No. 127:126229 Automated multiple development (AMD). Applications and online coupling with reversed-phase HPLC. Part 1. Principles and application of AMD. Multiple methods for ultratrace determination: plant-protection agents in groundwater and drinking water analyzed by **thin-layer chromatography** (DC) with AMD. Burger, Klaus (Zentrale Analytik Bayerwerk, BAYER AG, Dormagen, 41538, Germany). Duennschicht-Chromatographie, 31-52. Editor(s): Kaiser, Rudolph E. InCom-Bureau: Duesseldorf, Germany. (German) 1996. CODEN: 64PIAX.

AB Groundwater and drinking water anal. for pesticides was performed using reversed-phase HPLC with online coupling to AMD **TLC**. The system is described as a microbore HPLC app. with a reversed-phase sepg. column and a modified automatic sampler. The column eluate is sprayed onto the **silica gel TLC** plates. Some results are presented.

L6 ANSWER 2 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
1991:94700 Document No.: BA91:53590. CHROMATOGRAPHIC BEHAVIOR OF SOME HERBICIDES ON A MIXTURE OF **SILICA GEL** AND CALCIUM SULFATE. RATHORE H S; SAXENA S K; SHARMA R. APPLIED CHEM. DEP., Z.H. COLL. ENGINEERING, ALIGARH MUSLIM UNIV., ALIGARH-202002, INDIA.. J PLANAR CHROMATOGR MOD TLC, (1990) 3 (MAY-JUNE), 251-255. CODEN: JPCTE5. ISSN: 0933-4173. Language: English.

AB A mixture of **silica gel** G and calcium sulfate (1 + 4, w/w), named silical gel G4, has been used as stationary phase for the **TLC** separation of 10 carboxylic acid herbicides in 19 common solvents. Important separations achieved include: 2,4-dichlorophenoxyacetic acid from indole-3-acetic acid, .alpha.-naphthaleneacetic acid and .beta.-naphthaleneacetic acid; .alpha.-naphthaleneacetic acid from gallic acid and indole-3-acetic acid; .beta.-naphthaleneacetic acid from p-chlorophenoxyacetic acid, 2,4-dichlorophenoxyacetic acid, .beta.-naphthoxyacetic acid, 2,4,5-trichlorophenoxyacetic acid, and phenoxyacetic acid; trichloroacetic acid from .alpha.-naphthaleneacetic acid, .beta.-naphthaleneacetic acid and phenoxyacetic acid; and trichloroacetic acid from .alpha.-naphthaleneacetic acid, .beta.-naphthaleneacetic acid and indole-3-acetic acid.

L6 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2003 ACS
1991:68714 Document No. 114:68714 Determination of pesticides in water by HPTLC using automated multiple development (AMD). De la Vigne, Ulf; Jaenchen, Dieter (CAMAG, Muttenz, CH-4132, Switz.). Journal of Planar Chromatography--Modern TLC, 3(1-2), 6-9 (English) 1990. CODEN: JPCTE5. ISSN: 0933-4173.

AB Reliable identification of trace amts. of pesticides in groundwater, surface water, and drinking water is possible by automated multiple development (AMD) chromatog. Using 2 universal elution gradients, in which the substances have different relative migration distances, plus identification by the multiwavelength response correlation provides 2 independent methods for reliable verification. Using high performance thin layer (HPTLC) **silica gel** layers of 100 .mu.m instead of 200 .mu.m and reducing the running distance increments from 3 to 1 mm increases both the sensitivity and speed of the method.

L6 ANSWER 4 OF 15 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.DUPLICATE 2
87058454 EMBASE Document No.: 1987058454. Determination of triazine and chlorophenoxy acid herbicides in natural water samples by solid phase extraction and quantitative **thin layer chromatography**. Sherma J.. Department of Chemistry, Lafayette College, Easton, PA 18042, United States. Journal of Liquid Chromatography 9/16 (3433-3438) 1986.
CODEN: JLCHD8. Pub. Country: United States. Language: English.
AB Atrazine, simazine, 2,4-D, silvex, and **2,4,5-T**, were determined in natural water samples at 10 ppb levels by solid phase extraction on disposable C18 columns and **TLC** on preadsorbent **silica gel** layers impregnated with AgNO3, exposure to UV light, and densitometric scanning. Recoveries ranged from 70 to 88% for the triazines and 93 to 100% for chlorphenoxy acid herbicides, with average CV values of 7 to 8%. Solid phase extraction proved to be an advantageous alternative to classical liquid-liquid partition for the analysis of water for these compounds by quantitative **TLC**.

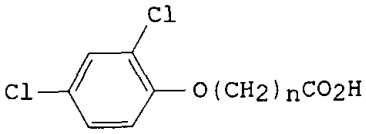
L6 ANSWER 5 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
1978:124850 Document No.: BA65:11850. SIMPLE SENSITIVE TECHNIQUE FOR DETECTING ORGANO CHLORINE PESTICIDES ON THIN LAYER CHROMATOGRAMS. LUDWICK A G; LAU A N K; LUDWICK L M. DEP. CHEM., TUSKEGEE INST., TUSKEGEE, ALA. 36088, USA.. J ASSOC OFF ANAL CHEM, (1977) 60 (5), 1077-1080. CODEN: JANCA2. ISSN: 0004-5756. Language: English.
AB Chlorinated hydrocarbon pesticides can be quickly detected using commercially available **TLC** plates dipped in an acetone solution of silver nitrate. The limits of detection are functions of the pesticide, adsorbent, developing system, and concentration of the silver nitrate in acetone solution. On exposure to UV light, 0.002 .mu.g **2,4,5-T** produced clear darkening within 30 min on precoated **silica gel** plates (polyvinyl alcohol binder) coated with a solution of 0.1% silver nitrate in acetone, For this system, a 0.05% coating solution. Onthe **silica gel** plates (polyvinyl alcohol binder, 0.1% silver nitrate), 0.02 .mu.g lindane is detected within 75 min. For alumina plates (polyvinyl alcohol binder, 0.1% silver nitrate), 0.025 .mu.g aldrin is detected within 10 min. Darkening of this plate prohibits the detection of 0.012 .mu.g aldrin. On **silica gel** plates (polyvinyl alcohol binder, 0.1% silver nitrate), 0.015 .mu.g aldrin can be detected within 45 min. Themethod described provides sensitivities equal to or exceeding literature values.

L6 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2003 ACS
1977:101767 Document No. 86:101767 Sucrose derivatives of aryloxyalkanecarboxylic acids. Quantitative analytical methods. Arct, Jacek; Eckstein, Zygmunt (Inst. Chem. Org. Technol., Politech. Warszawa, Warsaw, Pol.). Chemia Analityczna (Warsaw, Poland), 21(5), 1187-90 (Polish) 1976. CODEN: CANWAJ. ISSN: 0009-2223.
AB **2,4,5-T** sucrose monoester [29223-17-4], **2,4,5-T** sucrose diester [61599-25-5], 2,4-D sucrose monoester [29617-09-2], and 2-naphthoxyacetic acid sucrose monoester [61599-26-6] were detd. colorimetrically with anthrone + H2SO4 after sepn. by **thin-layer chromatog.** on **silica gel** GF254. The mobile phase was described by Y. Arct and Z. Eckstein (1975). The method was used for sepn. of the esters from the parent compds.

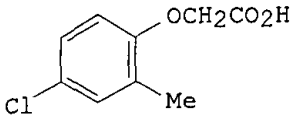
L6 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2003 ACS
1976:415096 Document No. 85:15096 Chromatographic determination in water of residues of herbicidal derivatives of phenoxyalkanecarboxylic acids

(2,4-D, 2M-4Ch [MCPA], and 2,4-DM). Chmil, V. D. (Vses. Nauchno-Issled. Inst. Gig. Toksikol. Pestits., Polim. Plast. Mass, Kiev, USSR). Gigiena i Sanitariya (4), 66-9 (Russian) 1976. CODEN: GISAAA. ISSN: 0016-9900.

GI



I, n=1
III, n=3



II

AB 2,4-D (I) [94-75-7], MCPA (II) [94-74-6], and 2,4-DM (.gamma.-(2,4-dichlorophenoxy)butyric acid)(III) [94-82-6] were detd. in water by extn. with Et2O, followed by extn. with NaHCO3, methylation with Me2SO4, extn. with C6H14, and gas chromatog. on chromatone coated with DMKhS. N was the carrier gas, and column temp. was 170.degree.. An electron capture detector was used. The sensitivity of II detn. was increased by halogenation according to W. H. Gutenman and D. J. Lisk (1963). **2,4,5-T** was used as internal std. in the detn. of I and III. For better identification of I and III **thin-layer chromatog.** on **silica gel** was also carried out, with heptane-Me2CO (9:3) as mobile phase. Sensitivity was 0.005 mg/l. for I and III, and 0.003 mg/l. for II. Relative retention values should be used in gas chromatog., since the use of abs. retention may cause identification errors.

L6 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2003 ACS

1976:72710 Document No. 84:72710 Determination of residual quantities of phenoxyalkanecarboxylic acid herbicides (2,4-D, 2,4-DM) in food produce. Chmil, V. D. (Vses. Nauchno-Issled. Inst. Gig. Toksikol. Pestits., Polim. Plast. Mass, Kiev, USSR). Voprosy Pitaniya (6), 70-3 (Russian) 1975. CODEN: VPITAR. ISSN: 0042-8833.

AB Grain and potato samples (25-50 g) were treated with 2.5 .mu.g **2,4,5-T** as an internal std. and extd. with a mixt. of 10% H2SO4 1, 95% EtOH 1.5, petroleum ether 2.5, and Et2O 7.5 parts. The org. layer was sepd., purified with acid and phosphomolybdic acid solns., and then extd. with NaHCO3 soln. to obtain the herbicides in aq. soln. The latter was acidified and the herbicides extd. with Et2O and esterified with Me2SO4 in abs. MeOH. The hebicides were then subjected to gas chromatog., where they were quantified to 0.01 mg/kg for 2,4-D [94-75-7] and 2,4-dichlorophenoxybutyric acid (2,4-DM) [94-82-6]. As an alternative, the esterified herbicides were sepd. by **silica gel thin-layer chromatog.** with heptane-Me2CO (9:3), where 2,4-D and 2,4-DM were detected in amts. of 1 and 2 .mu.g, resp.

L6 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2003 ACS

1974:531298 Document No. 81:131298 Detection and determination of 2,3,7,8-tetrachlorodibenzo-p-dioxin in chloro-substituted phenoxyalkanoic acids. Brenner, K. S.; Mueller, K.; Sattel, P. (Untersuchungslab., Bad. Anilin- und Soda Fabr. A.-G., Ludwigshafen/Rhein, Fed. Rep. Ger.). Journal of Chromatography, 90(2), 382-7 (German) 1974. CODEN: JOCRAM. ISSN: 0021-9673.

AB When 2 methods for detg. the contamination of com. prepns. of **2,4,5-T** [93-76-5] with the toxic title compd. (I) [1746-01-6] were compared, the proposed method (involving extractive distn. and gas chromatog. on successive diatomaceous earth and Dexil-capillary columns) was less satisfactory than the std. DAPA method (involving hexane extn., ammonia treatment, column chromatog. on aluminum

oxide, **thin-layer chromatog.** on **silica gel**, and gas chromatog. on a Dexil column). Recoveries of I supplements from dioxin-free **2,4,5-T** samples were comparable for the 2 methods. However, the prepurifn. portion of the exptl. gas chromatog. column became heavily contaminated after only 2-3 runs, requiring too frequent replacement.

L6 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2003 ACS
1974:564488 Document No. 81:164488 Determination of 2,4-D, its sodium salt, and the butyl esters of 2,4-D and **2,4,5-T** in water. Klisenko, M. A.; Verblyudova, N. I. (Vses. Nauchno-Issled. Inst. Gig. Toksikol. Pestits., Polim. Plast. Mass, Kiev, USSR). Metody Opredeleniya Pestitsidov v Vode, 1, 42-6 (Russian) 1973. CODEN: MOPEBE.
AB Water samples (100-200 ml) are acidified to pH 3 and extd. with Et2O or CHCl3 followed by **thin-layer chromatog.** For 2,4-D (I) [94-75-7] and 2-4-D Na salt [2702-72-9] detn. the plate is covered with **silica gel** KSK 2.5 and for 2,4-D Bu ester [94-80-4] and **2,4,5-T** Bu ester [93-79-8] detn. the plates are covered with **silica gel** KSK 2, KSK, or KSK 2.5. For 2,4-D compds., Me2CO-NH3 (8:1) and for **2,4,5-T** Bu ester, hexane-acetone (9:1) are used as solvents. Rf for 2,4-D is 0.5-0.62, for 2,4-D Bu ester 0.7-0.72, and for **2,4,5-T** Bu ester 0.35-0.38; the sensitivity of the method is 0.03-0.05 mg/l.

L6 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2003 ACS
1973:106847 Document No. 78:106847 Characterization of phenoxyacetic acid by **thin-layer chromatography**. Meinard, Colette (Dep. Biol. Appl., Soc. Procida, Marseilles, Fr.). Phytiatrie-Phytopharmacie, 20(4), 257-60 (French) 1971. CODEN: PHPHA6. ISSN: 0031-8876.
AB 2,4-D [94-75-7], **2,4,5-T** [93-76-5], MCPA [94-74-6], and MCPP [93-65-2] were sepd. from one another by 2-dimensional **thin-layer chromatog.** on a 2:3 **silica gel**-Kieselguhr, mixt., using 80:20:0.4 hexane-EtOAc-HCO2H and 66:33:1 CHCl3-hexane-AcOH, resp. The sensitivity was 50 ng 2,4-D/l.

L6 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2003 ACS
1971:139726 Document No. 74:139726 Semiquantitative determination of the herbicides 2,4-D and **2,4,5-T** esters in poisoned bees by **thin-layer chromatography**. Mueller, Bernd (Bezirksinst. Vet. Potsdam, Potsdam, Fed. Rep. Ger.). Archiv fuer Experimentelle Veterinaermedizin, 24(5), 1149-51 (German) 1970. CODEN: AXVMAW. ISSN: 0003-9055.
AB Homogenized bees are extd. with 50% EtOH. The alc. soln. after satn. with NaCl is extd. with petroleum ether. After purification and evapn. the ether ext. is again dissolved in a small amt. of Me2CO. Increasing quantities of this soln. are placed on a **silica gel** G thin-layer plate, which is developed in a mixt. of heptane-acetone (98:2) and treated with a AgNO3 soln. Black spots appear under an uv lamp after 30 min with RF values of 0.19 for the Bu ester of 2,4-D and 0.28 for the Bu ester of **2,4,5-T**. The accuracy of the method is 0.5 .mu.g.

L6 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2003 ACS
1972:95566 Document No. 76:95566 Identification of organochlorine pesticides by **thin-layer chromatography** and ultraviolet spectroscopy. Verblyudova, N. I.; Klisenko, M. A. (USSR). Gig. Primen. Toksikol. Pestits. Klin. Otravl., No. 7, 546-52 From: Ref. Zh., Khim. 1970, Abstr. No. 23N728 (Russian) 1969.

AB **2,4,5-T** [93-76-5], DDT [50-29-3] and polychloropinene are sepd. by **thin-layer chromatog.** on Al2O3 or **silica gel**, followed by elution, and uv spectroscopic detn. The sensitivity of the **thin-layer chromatog.** sepn. is 5 .mu.g, and that of uv spectroscopy .geq.80 .mu.g.

L6 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2003 ACS
1968:475846 Document No. 69:75846 Separation and identification of some chlorinated hydrocarbon insecticides and herbicides by two-dimensional **thin-layer chromatography**. Adamovic, V. M. (Dep. Sanit. Che., Inst. Health Prot. S.R. Serbia, Belgrade, Yugoslavia). Fresenius' Zeitschrift fuer Analytische Chemie, 239(4), 233-9 (English) 1968. CODEN: ZACFAU. ISSN: 0016-1152.
AB A simple and rapid procedure for 2-dimensional thin-layer-chromatographic sepn. and identification of some chlorinated insecticides and herbicides is carried out on **silica gel** G with C6H6-HOAc-hexane and petroleum fraction b. 80-100.degree. as solvent systems. Identification is achieved by spraying the chromatogram with diphenylamine and irradiating with uv light. With this method, simultaneous sepn. of a mixt. of 11 organochlorine pesticides, aldrin, isodrin, dieldrin, endrin, p,p'-DDT, lindane, toxaphene, methoxychlor, 2,4-D, **2,4,5-T**, and MCPA, can be achieved. p,p'-DDE and dalapon and 2,4-DB and MCPP were not sepd. in this manner.

L6 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2003 ACS
1968:466428 Document No. 69:66428 Separation and identification of some chlorinated insecticides and herbicides by two-dimensional **thin-layer chromatography**. Adamovic, Vladislav M. (Zavod Zdravst. Zast. SRS, Belgrade, Yugoslavia). Hrana i Ishrana, 8(11-12), 765-7 (Croatian) 1967. CODEN: HRISAK. ISSN: 0018-6872.
AB A simple and rapid method for the sepn. and identification of some chlorinated insecticides and the derivs. of the chlorophenoxy acids is described. The pesticides, aldrin, isodrin, dieldrin, endrin, p,p'-DDT, toxaphene, lindane, methoxychlor, 2,4-D, 2,4-DB (4-(2,4-dichlorophenoxy)butyric acid), **2,4,5-T**, MCPA, MCPP (mecoprop), and dalapon, were applied to a **silica gel** G plate and were eluted by HOAc-benzenehexane (10:15:75). After removing the HOAc from the plate by evapn., the 2nd dimension elution was carried out using petroleum ether (b. 80-100.degree.). The plate was sprayed with 0.5% diphenylamine in EtOH and was visualized under uv. The method is not suitable for the sepn. of 2,4-DB and MCPP.

```
=> s l2 and tolidine
L7            0 L2 AND TOLIDINE

=> s (trichlorophenoxyacetic acid or trichlorobenzene hapten or 2,4,5,T)
   4 FILES SEARCHED...
L8         7541 (TRICHLOROPHENOXYACETIC ACID OR TRICHLOROBENZENE HAPTEN OR 2,4,5
                ,T)

=> s l8 and alanine
L9           17 L8 AND ALANINE

=> s l9 and dichloromethane
L10           0 L9 AND DICHLOROMETHANE

=> s l9 and hydroxysuccinimide
L11           0 L9 AND HYDROXYSUCCINIMIDE
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=> s l8 and conjugate
L12 97 L8 AND CONJUGATE

=> s l12 and beta alanine
L13 0 L12 AND BETA ALANINE

=> s l12 adn dicyclohexylcarbodiimide
MISSING OPERATOR L12 ADN
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nested terms that are not separated by a logical operator.

=> s l12 and dicyclohexylcarbodiimide
L14 2 L12 AND DICYCLOHEXYLCARBODIIMIDE

=> dup remove l14
PROCESSING COMPLETED FOR L14
L15 2 DUP REMOVE L14 (0 DUPLICATES REMOVED)

=> d l15 1-2 cbib abs

L15 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS
2002:365353 Document No. 137:58925 New approach to immunochemical determinations for triclopyr and 3,5,6-trichloro-2-pyridinol by using a bifunctional hapten, and evaluation of polyclonal antiserum. Watanabe, Eiki; Hoshino, Ryoko; Kanzaki, Yukiko; Tokumoto, Hiroshi; Kubo, Hiroaki; Nakazawa, Hiroyuki (Department of Analytical Chemistry Faculty of Pharmaceutical Sciences, Hoshi University, Shinagawa-ku Tokyo, 142-8501, Japan). Journal of Agricultural and Food Chemistry, 50(13), 3637-3646 (English) 2002. CODEN: JAFCAU. ISSN: 0021-8561. OTHER SOURCES: CASREACT 137:58925. Publisher: American Chemical Society.

AB The present work describes the design and synthesis of the structurally unique hapten, "bifunctional hapten", to produce a group-specific polyclonal antiserum to triclopyr and 3,5,6-trichloro-2-pyridinol. A bifunctional hapten was designed and synthesized by conjugating com. available N.epsilon.-2,4-dinitrophenyl (DNP)-L-lysine to triclopyr, and then coupling this to carrier proteins such as bovine serum albumin (BSA). The synthesized bifunctional hapten greatly raised the antiserum titer in comparison with that of the conventional hapten, triclopyr. Antiserum with a sufficiently high titer to provide the detns. of targeted compds. was obtained only 63 days after the primary immunization. The obtained antiserum showed the highest affinity to triclopyr (IC50 = 3.5 nM) and 3,5,6-trichloro-2-pyridinol (IC50 = 5.1 nM) in homologous ELISA. The cross-reactivities to various agrochems. and some chlorinated phenolic compds. were detd. Significant cross-reactivity was found to the herbicide **2,4,5-T**. The antiserum reacted to both triclopyr and its metabolite. Assay sensitivity was evaluated for effects of various assay conditions, including pH value and concns. of org. solvents and detergents. Under optimized assay conditions, the quant. working range of triclopyr ELISA was from 0.1 to 5.2 ng/mL with a limit of detection (LOD) of 0.037 ng/mL, and an IC50 of 0.72 ng/mL. On the other hand, the quant. working range of 3,5,6-trichloro-2-pyridinol ELISA was from 0.13 to 6.0 ng/mL with a LOD of 0.052 ng/mL, and an IC50 of 0.95 ng/mL. Water samples fortified with triclopyr or its metabolite at 1, 5, and 10 ng/mL were directly analyzed without extn. and cleanup by the proposed ELISA. The mean recovery was 101.6%, and the mean coeff. of variation (CV) was 7.1% in the case of the triclopyr ELISA. In the case of the 3,5,6-trichloro-2-pyridinol ELISA, the mean recovery was 99.8%, and the mean CV was 9.5%. The proposed ELISA turned out to be a powerful tool for monitoring of residual triclopyr or 3,5,6-trichloro-2-pyridinol in water samples at trace level.

L15 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS

1965:92816 Document No. 62:92816 Original Reference No. 62:16654g-h,16655a
Chlorophenoxyacetic acids and their derivatives as possible tuberculostats. Mahishi, Narain B.; Iyer, B. H.; Sirisi, M. (Indian Inst. Sci., Bangalore). J. Indian Chem. Soc., 42(2), 67-74 (English) 1965.
AB 4-Chlorophenoxyacetic acid, 2,4-dichlorophenoxyacetic acid, and 2,4,5-**trichlorophenoxyacetic acid** were converted successively into ethyl esters, hydrazides, and aldehyde-condensation products of the hydrazides. They were also condensed with the ethyl esters of glycine and methionine, using N,N'-**dicyclohexylcarbodiimide** to obtain the corresponding amino acid **conjugate** esters which were then converted successively into hydrazides and their aldehyde-condensation products. These 119 compds. were then screened by the surface-culture technique for tuberculostatic activity against in vitro Mycobacterium tuberculosis H37Rv at a diln. of 1:10,000. Only 41 of the 119 compds. were active. The hydrazides of all 3 auxins were active, 2 hydrazides of amino acid **conjugates** of the auxins were active, 33 (21 of which were pyridine aldehyde derivs.) aldehyde-condensation products were active, and some of the aldehyde condensation products of the inactive **conjugate** hydrazides were active. The no. and position of Cl atoms had no uniform effect on the activity.

=> s l12 and dimethylaminipyridine catalyst
L16 0 L12 AND DIMETHYLAMINIPYRIDINE CATALYST

=> s l12 and dichloromethane
L17 0 L12 AND DICHLOROMETHANE

=> s egg antibody
L18 260 EGG ANTIBODY

=> s l18 and titer
L19 35 L18 AND TITER

=> s l19 and "165-225 mg/ml"
L20 0 L19 AND "165-225 MG/ML"

=> dup remove l19
PROCESSING COMPLETED FOR L19
L21 21 DUP REMOVE L19 (14 DUPLICATES REMOVED)

=> d l21 1-21 cbib abs

L21 ANSWER 1 OF 21 SCISEARCH COPYRIGHT 2003 ISI (R)
2002:736533 The Genuine Article (R) Number: 587PB. Different kinetic of antibody responses following infection of newly weaned pigs with an F4 enterotoxigenic Escherichia coli strain or an F18 verotoxigenic Escherichia coli strain. Verdonck F (Reprint); Cox E; van Gog K; Van der Stede Y; Duchateau L; Deprez P; Goddeeris B M. Ghent Univ, Lab Vet Immunol, Fac Vet Med, Salisburylaan 133, B-9820 Merelbeke, Belgium (Reprint); Ghent Univ, Lab Vet Immunol, Fac Vet Med, B-9820 Merelbeke, Belgium; Ghent Univ, Dept Physiol Biochem & Biometrics, B-9820 Merelbeke, Belgium; Ghent Univ, Dept Internal Med & Clin Biol Large Anim, Fac Vet Med, B-9820 Merelbeke, Belgium; Katholieke Univ Leuven, Lab Physiol & Immunol Domest Anim, Fac Agr & Appl Biol Sci, B-3001 Heverlee, Belgium. VACCINE (26 JUL 2002) Vol. 20, No. 23-24, pp. 2995-3004. Publisher: ELSEVIER SCI LTD. THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, OXON, ENGLAND. ISSN: 0264-410X. Pub. country: Belgium. Language: English.
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB To develop a vaccine against Escherichia coli-induced post-weaning diarrhea and edema disease, insights in the induction of the protective

immune response following infection with these pathogenic E. coli is needed. Therefore, the fimbriae-specific antibody response of newly weaned pigs following infection with the Shiga-like toxin type II variant (SLT-IIv) producing F18(+) verotoxigenic E. coli (VTEC) (strain 107/86) was compared with the response following an infection with LT producing F4(+) enterotoxigenic E. coli (ETEC) (strain GIS 26). F4(+) ETEC were able to colonize the gut very soon after infection, as peak excretion of F4(+) E. coli bacteria was seen 2 days post-infection (dpi), but had already disappeared 7 dpi. On the other hand, F18(+) VTEC infection resulted in a slower colonization of the gut as the peak excretion of F18(+) E. coli was observed between 3 and 5 dpi, but this colonization remained longer as F18(+) E. coli were detected till 9 dpi in feces. Furthermore, this fast colonization pattern of F4(+) ETEC is accompanied with the presence of F4-specific antibodies in mucosal tissues and serum from 4 dpi onward, with maximal amounts of F4-specific IgA in the jejunal lamina propria and serum 7 dpi. In contrast, F18-specific IgA was only readily detected in the jejunal lamina propria 15 dpi and showed a maximum serum **titer** 21 dpi. Besides this faster induction and higher antibody response, the switch from IgM to IgA and IgG was also earlier following the F4(+) ETEC infection.

L21 ANSWER 2 OF 21 MEDLINE DUPLICATE 1
1998028134 Document Number: 98028134. PubMed ID: 9362041. Effect of oral **egg antibody** in experimental F18+ Escherichia coli infection in weaned pigs. Yokoyama H; Hashi T; Umeda K; Icatlo F C Jr; Kuroki M; Ikemori Y; Kodama Y. (GHEN Corporation, Immunology Research Institute, Gifu City, Japan.) JOURNAL OF VETERINARY MEDICAL SCIENCE, (1997 Oct) 59 (10) 917-21. Journal code: 9105360. ISSN: 0916-7250. Pub. country: Japan. Language: English.

AB The protection conferred by **egg antibody** specific for F18-fimbriae against infection with F18+ Escherichia coli was studied in controlled passive immunization trials involving weaned pigs. Parameters of protection consisted of body weight gain, frequency and severity of diarrhea and recovery of the challenge strain of F18+ E. coli. Weaned pigs at four weeks of age were challenge exposed once daily for three days by oral inoculation with 10(11) cfu of virulent F18+ E. coli followed by daily administration of antibody supplemented feed for 9 days starting from the first challenge day 0. Results showed a dose-dependent response to antibody treatment. The group of pigs given 1:50 **titer** of antibody in feed had less frequency of diarrhea ($P < 0.01$-0.05), higher rate of gain ($P < 0.01$) and lower isolation rate of challenge strain in rectal and intestinal swabs ($P < 0.01$) compared to non-treated control. In the same manner, the anti-F18 antibody significantly reduced adherence of F18+ E. coli to pig intestinal epithelial cells in vitro ($P < 0.01$). Results suggest that **egg antibodies** specific for the F18 fimbriae is a suitable immunotherapeutic agent for pigs infected with F18+ E. coli and that pigs can be protected from overt clinical disease and the subsequent reduced performance arising from infection with this pathogen.

L21 ANSWER 3 OF 21 BIOSIS
1994:275312 Document No.: PREV199497288312. Tick infestations on cattle vaccinated with extracts from the eggs and the gut of Boophilus microplus. Kimaro, E. E.; Opdebeeck, J. P. (1). (1) Dep. Parasitol., Univ. Queensland, St. Lucia 4072, Brisbane, QLD Australia. Veterinary Parasitology, (1994) Vol. 52, No. 1-2, pp. 61-70. ISSN: 0304-4017. Language: English.

AB Extracts prepared from the membranes of eggs (EM) and guts (GM) of Boophilus microplus were used to immunize cattle which were then infested twice with 20 000 larval ticks 1 week apart. EM antigens did not protect cattle against challenge with ticks, despite high levels of anti-**egg antibodies** in the sera of the vaccinated cattle,

detected by an indirect enzyme-linked immunosorbent assay (ELISA). Cattle vaccinated with GM, however, had high levels of antibodies against GM and were protected significantly against challenge with B. microplus. Anti-EM and anti-GM antibodies in the sera of cattle cross-reacted significantly with GM and EM respectively on ELISA and recognised both specific and common antigens in extracts of the eggs and guts of B. microplus on Western blots. Exposure of cattle to field infestation with ticks during vaccination with gut antigens did not adversely affect the levels of antibodies generated.

L21 ANSWER 4 OF 21 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.DUPLICATE 2
93047262 EMBASE Document No.: 1993047262. The identification of Salmonella enteritidis-infected poultry flocks associated with an outbreak of human salmonellosis. Van De Giessen A.W.; Dufrenne J.B.; Ritmeester W.S.; Berkers P.A.T.A.; Van Leeuwen W.J.; Notermans S.H.W.. Lab for Water and Food Microbiology, Natl Inst Public Hlth/Env Protection,3720 BA Bilthoven, Netherlands. Epidemiology and Infection 109/3 (405-411) 1992. ISSN: 0950-2688. CODEN: EPINEU. Pub. Country: United Kingdom. Language: English. Summary Language: English.

AB In the summer of 1991 a human outbreak of Salmonella enteritidis infection occurred following a barbecue in which about 100 persons were involved. Eggs, supplied by one or more of 10 different layer farms, were the most probable source of the infection. To identify the S. enteritidis-positive flocks, an immunoassay was used to detect salmonella serogroup D-specific antibodies in the yolk of hens **eggs**. **Antibody** titres in the eggs from two layer farms, farm A and B, clearly exceeded the titres found in randomly collected eggs. Further investigations on farm A and B yielded high antibody titres in the eggs from flocks A1, A2 and B2, and low titres in the eggs from flock B1. S. enteritidis was isolated from the faecal samples of flocks A1, A2 and B2, whereas no salmonella was detected in the faecal samples of flock B1. The flocks present on both farms originated from the same breeder flock.

L21 ANSWER 5 OF 21 MEDLINE DUPLICATE 3
92040177 Document Number: 92040177. PubMed ID: 1718879. Comparison of immune repertoires of Chinese and Philippine patients infected with Schistosoma japonicum. Kresina T F; Guan X H; Posner M; Ramirez B; Olds G R. (Department of Medicine, Brown University International Health Institute, Miriam Hospital, Providence, Rhode Island 02906.) INFECTION AND IMMUNITY, (1991 Dec) 59 (12) 4698-700. Journal code: 0246127. ISSN: 0019-9567. Pub. country: United States. Language: English.

AB Chinese and Philippine patients exhibited detectable **titers** of serum antibodies to Schistosoma japonicum worm and egg antigens. Western blot (immunoblot) data revealed differing antigenic profiles. Antigen inhibition studies showed low and high levels of cross-reactivity with anti-worm and anti-**egg antibodies**, respectively, derived from both Chinese and Philippine patients. Thus, anti-**egg antibodies** and egg antigens are more conserved than anti-worm antibodies and worm antigens.

L21 ANSWER 6 OF 21 CAPLUS COPYRIGHT 2003 ACS
1991:630007 Document No. 115:230007 Production and characterization of anti-human insulin antibodies in the hen's egg. Lee, Kyungae; Ametani, Akio; Shimizu, Makoto; Hatta, Hajime; Yamamoto, Takehiko; Kaminogawa, Shuichi (Dep. Agric. Chem., Univ. Tokyo, Tokyo, 113, Japan). Agricultural and Biological Chemistry, 55(8), 2141-3 (English) 1991. CODEN: ABCHA6. ISSN: 0002-1369.

AB Immunization of chickens with native or polymd. insulin gives anti-insulin antibodies which can be obtained from egg yolks. Antibody **titer** in the blood increased soon after injection with these antigens. These antibodies have a strong affinity for native insulin and do not bind the denatured insulin. Development of an immunoassay system for insulin

detection using chicken antibodies is in progress.

L21 ANSWER 7 OF 21 MEDLINE DUPLICATE 4
91353003 Document Number: 91353003. PubMed ID: 1882506. Immune responses in chickens against Salmonella typhimurium monitored with **egg antibodies**. Schiemann D A; Montgomery A L. (Department of Microbiology, Montana State University, Bozeman 59717.) VETERINARY MICROBIOLOGY, (1991 May) 27 (3-4) 295-308. Journal code: 7705469. ISSN: 0378-1135. Pub. country: Netherlands. Language: English.

AB Three mature hens were immunized with an Aro- mutant of Salmonella typhimurium beginning with a subcutaneous dose in adjuvant followed by two oral boosters. Isotype-specific antibodies were measured in the white and yolk eggs collected weekly over a period of 230 days. Two hens showed a memory response to the first oral booster, with large increases in egg yolk IgG and smaller increases in IgA and IgM antibodies in egg whites. Smaller amounts of IgA and IgM antibodies were found in egg yolks, and a slight increase in IgG occurred in the whites. One hen showed an increase in serum **titers** of all isotypes against S. typhimurium. The second hen had high serum **titers** before immunization was started which did not change. The third hen had a high level of IgM in the white of eggs before immunization was started. This hen showed erratic responses in egg white antibodies following immunization, no increase in IgA or IgM in yolks and only a slight increase in IgG, no increase in serum IgG, and was the only hen with a high level of IgM antibody against S. typhimurium in the bile, conditions reflecting a state of oral tolerance. With the exception of this hen, the results showed that IgA and IgM antibodies were aroused in hens by immunization with an avirulent mutant of S. typhimurium, and that these antibodies were present in the white of eggs from immunized hens.

L21 ANSWER 8 OF 21 MEDLINE DUPLICATE 5
90350354 Document Number: 90350354. PubMed ID: 2385977. Chicken **egg antibodies** for prophylaxis and therapy of infectious intestinal diseases. III. In vivo tenacity test in piglets with artificial jejunal fistula. Wiedemann V; Kuhlmann R; Schmidt P; Erhardt W; Losch U. (Institut fur Tierphysiologie, Munchen, FRG.) ZENTRALBLATT FUR VETERINARMEDIZIN. REIHE B, (1990 May) 37 (3) 163-72. Journal code: 0331325. ISSN: 0514-7166. Pub. country: GERMANY, WEST: Germany, Federal Republic of. Language: English.

AB Large quantities of specific **egg antibodies** can be produced with little effort by immunization of laying hens. Several antibody containing egg preparations were subjected to a tenacity test against digestive activity taking piglets with artificial jejunum fistulas as a model. Even with high doses of orally administered yolk lyophilisate no antibody activity could be found in the distal jejunum. The additional feeding of egg white, however, showed a significant protective effect on the yolks antibodies during the digestive act. No difference between egg white of immunized hens and egg white of unimmunized hens could be detected. Buffering the acidic gastric environment with sodium bicarbonate increased the antibody activity in the intestine by an average of 40%. Eggs administered in hot (70 degrees C) beef stock had higher antibody **titers** than eggs that were boiled for 4 minutes. Tenacity in antibodies fed in pellets was significantly lower than in powdered feed.

L21 ANSWER 9 OF 21 CAPLUS COPYRIGHT 2003 ACS
1989:55820 Document No. 110:55820 Method of passive immunization of mammals using poultry antibody. Stolle, Ralph J.; Beck, Lee R. (Stolle Research and Development Corp., USA). U.S. US 4748018 A 19880531, 8 pp. Cont.-in-part of U.S. Ser. No. 577,804, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1984-622130 19840619. PRIORITY: US 1984-577804 19840207.

AB A mammal is passively immunized against a condition caused by an antigen

by (a) feeding the mammal heterologous protein antibody obtained from the egg of a domesticated fowl immunized against the antigen and having enhanced antibody **titer** against the antigen, until the mammal develops tolerance to the antibody; and (b) administering to the mammal an immunol. effective amt. of an antibody obtained from immunized poultry. Rats were infected with Streptococcus mutans and fed regular cariogenic diet, the diet plus immune chicken IgG, or the diet plus nonimmune chicken IgG. The diet contg. chicken IgG antibody against S. mutans caused a redn. in both the dental caries and dental plaque scores compared to the other diets.

L21 ANSWER 10 OF 21 CAPLUS COPYRIGHT 2003 ACS
1987:634647 Document No. 107:234647 Specific antibody-containing substance and transfer factor-like component from eggs and method of production and use thereof. Tokoro, Hideo (Forvest Ltd., Japan). Eur. Pat. Appl. EP 225254 A2 19870610, 15 pp. DESIGNATED STATES: R: CH, DE, ES, FR, GB, IT, LI, NL. (English). CODEN: EPXXDW. APPLICATION: EP 1986-402595 19861121. PRIORITY: JP 1985-264108 19851125; JP 1986-218859 19860917.
AB A substance which contains a specific antibody or specific transfer factor-like component (TFLC) is produced from the yolk or albumen or both of eggs of a hen which has been immunized against a selected antigen such as a pathogenic bacterium. The substance is active against the antigen, and is useful for protecting animals from attack by the same antigen as used in immunization of the hen. The TFLC is recovered from a fraction of <10,000 mol. wt. of the yolk or albumen or both of the eggs. Hens were immunized with porcine enterotoxigenic Escherichia coli (ETEC) 987P antigen in conjunction with a water-in-oil emulsion type adjuvant contg. dead tubercle bacillus. The antibody **titer** in egg yolks reached a max. value 8 wk after initial immunization. Egg yolks were pooled, homogenized, and spray dried into a powder and stored at 37.degree. in air where it was stable for >6 mo. Newborn pigs taking colostrum were given 1.5 g of the spray-dried egg yolk powder as a soln. in artificial milk 3 times a day. Between 21 and 23 h after birth they were challenged by oral administration of 2 .times. 1010 cells ETEC. The body temp. of the treated pigs recovered .apprx.2 days after challenge and their stools returned to normal 3 days after challenge. The control group took longer to recover body temp., none of their stools returned to normal even after 5 days, and some died within 5 days.

L21 ANSWER 11 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
1987:105449 Document No.: BA83:54427. THE CHICKEN EGG AN ANTIBODY SOURCE. LOESCH U; SCHRANNER I; WANKE R; JUERGENS L. INST. ANIMAL'S PHYSIOL., UNIV. MUNICH, VETERINAERSTR. 13, D-8000 MUENCHEN 22.. J VET MED SER B, (1986) 33 (8), 609-619. CODEN: JVMBE9. Language: English.
AB Antibody **titers** achieved by the immunization of hens are presented with examples. The transfer of immunoglobulins from the blood or oviduct to the egg and the distribution of these proteins in the various compartments which develop in the egg during incubation are quantitatively recorded. Possible procedures for extracting IgG antibody from the yolk are pointed out. Results concerning acid and temperature resistance of yolk antibodies are presented. An overview of the literature concerning with diagnostic use of yolk antibodies is given. The possible therapeutic application of **egg antibodies** is discussed.

L21 ANSWER 12 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
1984:179330 Document No.: BA77:12314. EXPERIMENTAL INFECTION OF DUCKS WITH MYCOPLASMA-SYNOVIAE. YAMADA S; MATSUO K. CHEMO-SERO-THERAPEUTIC RES. INST., 668 OKUBO SHIMIZO-CHO, KUMAMOTO-SHI 860, JPN.. AVIAN DIS, (1983) 27 (3), 762-765. CODEN: AVDIAI. ISSN: 0005-2086. Language: English.
AB Specific-pathogen-free ducks 24 and 180 days old were inoculated intranasally with the WVU 1853 strain of M. synoviae (MS). No significant

gross lesions were found in the infraorbital sinus, trachea or air sacs at 7 or 28 days postinfection; MS was recovered from all these organs. A few ducks responded serologically by developing agglutinating antibodies. MS multiplied in embryonated duck eggs but to lower **titers** than in embryonated chicken eggs.

L21 ANSWER 13 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
1983:307720 Document No.: BA76:65212. LUNG GRANULOMATOUS HYPER SENSITIVITY TO EGGS OF SCHISTOSOMA-JAPONICUM IN MICE ANALYZED BY A RADIO ISOTOPIC ASSAY AND EFFECTS OF HYBRIDOMA IDIOTYPE SENSITIZATION. MITCHELL G F; GARCIA E G; CRUISE K M; TIU W U; HOCKING R E. LAB. IMMUNOPARASITOL., WALTER ELIZA HALL INST. MED. RES., MELBOURNE, VICTORIA 3050, AUST.. AUST J EXP BIOL MED SCI, (1982) 60 (4), 401-416. CODEN: AJEBAK. ISSN: 0004-945X. Language: English.
AB The radioisotopic assay for acute granulomatous hypersensitivity (AGH) to eggs of S. japonicum in mice sensitized with eggs in adjuvant was examined in the high responder strain, C57BL/6. Responsiveness is expressed as the lung-kidney ratio of radioactivity in mice challenged i.v. with eggs and injected with 125I-iododeoxyuridine. Eggs vary in their AGH sensitizing and eliciting potency; eggs proven to be superior in the circumoval precipitation (COP) test for detection of human serum anti-S. japonicum antibodies are superior in the C57BL/6 AGH assay. CBA/H are nonresponders and BALB/c are low to intermediate responders and are thus different from C57BL/6 mice. Short-term infected CBA/H mice are low COP antibody responders relative to infected C57BL/6 and **titers** of IgM anti-**egg antibodies** are low in the CBA/H strain as determined in a solid-phase radioimmunoassay (RIA). Following egg sensitization, CBA/H mice are also lower responders than C57BL/6 mice in terms of antibodies with the specificity of a COP-positive IgM hybridoma-derived antibody, P.41, measured in a competitive RIA. No evidence was obtained that alteration of the response to the target epitope of P.41 alters the responsiveness of C57BL/6 mice to S. japonicum eggs. Thus, large amounts of injected P.41 antibody do not alter lung AGH and induced anti-idiotype responses to the P.41 protein do not influence AGH in egg-sensitized C57BL/6 mice. Immunization of C57BL/6 mice with another IgM anti-schistosome hybridoma antibody, I.39, results in partial inhibition of lung AGH responsiveness. The nature of the effect of I.39, immunization on AGH to eggs remains unknown, but further analysis of the phenomenon may lead to novel approaches to the control of granulomatous inflammatory disease in high responders.

L21 ANSWER 14 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
1982:194251 Document No.: BA73:54235. MURINE HYBRIDOMA DERIVED ANTIBODIES PRODUCING CIRCUM OVAL PRECIPITATION REACTIONS WITH EGGS OF SCHISTOSOMA-JAPONICUM. CRUISE K M; MITCHELL G F; TAPALES F P; GARCIA E G; HUANG S-R. LAB. IMMUNOPARASITOL., WALTER AND ELIZA HALL INST. MED. RES., VICTORIA, AUST. 3050.. AUST J EXP BIOL MED SCI, (1981) 59 (4), 503-514. CODEN: AJEBAK. ISSN: 0004-945X. Language: English.
AB Of 7 hybridomas which secrete Ig binding to crude extracts of S. japonicum adult worms and/or eggs in solid-phase radioimmunoassays (RIA), 3 gave positive precipitation reactions in the circumoval preciptin test (COPT). The COPT is a simple and inexpensive immunodiagnostic test for schistosomiasis japonica which involves the incubation of a selected batch of S. japonicum eggs with sera from patients and examination for precipitates 1 or more days later. Using a competitive RIA with an egg antigen extract and a labeled COPT-positive hybridoma ascites fluid, pokeweed factor [PWF] 41-1-3, only 1 anti-**egg antibody** specificity appeared to be represented in the series of 3 antibodies (as ascites fluids). Using sera as inhibitors in the competitive RIA, inhibitory activity (presumably antibodies to the target antigenic determinant of PWF.41-1-3) was readily detected in sera from egg immunized mice and was of relatively high **titer** in a strain of mouse (C57BL/6) which can be readily sensitized for large granuloma formation

around entrapped eggs in the lungs. Negligible inhibitory activity was found in the sera from S. japonicum-infected patients, even with sera from patients with prominent hepatosplenomegaly. The availability of COPT-positive hybridoma antibodies should facilitate isolation of at least one S. japonicum egg antigen involved in COP reactions and perhaps induction of immunopathological immune responses at least in mice.

L21 ANSWER 15 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
1982:157747 Document No.: BA73:17731. X-RAY SENSITIVITY OF EMBRYONATED CAPILLARIA-HEPATICA EGGS AND SERUM GLUTAMIC LACTIC DEHYDROGENASE ACTIVITIES AND ANTIBODY **TITERS** IN MASTOMYS-NATALENSIS INFECTED WITH UNTREATED OR IRRADIATED EGGS. ZAHNER H; SCHMIDT H; LAEMMLER G; GEYER E. INST. FUER PARASITOL. DER JUSTUS-LIEBIG-UNIV. GIESSEN, RUDOLF-BUCHHEIM-STRASSE 2, D-6300 GIESSEN, FRG.. Z PARASITENKD, (1981) 65 (1), 107-116. CODEN: ZEPAA6. ISSN: 0044-3255. Language: English.
AB X-ray irradiation of embryonated C. hepatica eggs using 0.5, 1 or 2 Krd resulted in a progressive decrease of egg production of the female nematodes which had developed from irradiated 1st stage larvae in Mastomys natalensis. Egg production did not occur after irradiation with 3, 4, 5, 10, 30, 50 or 70 Krd. The capacity of the parasites to invade the liver was not influenced. Infection of M. natalensis using unirradiated eggs was followed by an increase of serum-GLDH[glutamic lactic dehydrogenase]-activities between days 6-8 post infection [p.i.] reaching maximum values in this period of infection. High values were determined after the beginning of patency. Increased activity persisted up to the end of the experiment on day 36 p.i. After infection with eggs which had received 2.2 or 5 Krd in the increase of serum-GLDH-activities was decreased and occurred later in the course of infection using 5 Krd irradiated **eggs**. **Antibodies** could be demonstrated as early as 1 wk p.i. with unirradiated eggs. Employing the indirect hemagllutination test, using an aqueous extract from non-embryonated eggs as antigen, maximum **titers** occurred at the beginning of patency. After a nearly plateau-like course **titers** began to drop about 7 wk p.i., i.e., about the end of egg production by the female worms, but antibodies were still detectable 17 wk p.i. (end of the observation period). After infection with eggs which received 2.2 or 5 Krd, antibody development was delayed. Maximum **titers** were somewhat (2.2 Krd) or markedly (5 Krd) lower. Thereafter **titers** dropped to values comparable to those of uninfected M. natalensis. The results are compared with published reports on the pathohistology of capillariasis.

L21 ANSWER 16 OF 21 MEDLINE DUPLICATE 7
81249497 Document Number: 81249497. PubMed ID: 7196090. Schistosoma japonicum: use of a radioimmunoassay for anti **egg antibodies** in human sera. Tapales F P; Mitchell G F; Garcia E G; Cruise K M; Valdez C A; Anders R F. SOUTHEAST ASIAN JOURNAL OF TROPICAL MEDICINE AND PUBLIC HEALTH, (1981 Mar) 12 (1) 19-23. Journal code: 0266303. ISSN: 0125-1562. Pub. country: Thailand. Language: English.
AB A solid-phase radioimmunoassay (RIA) was developed for schistosomiasis japonica using extracted egg antigens and compared with circumoval precipitin test (COPT) results on 20 sera from known S. japonicum-infected individuals and on 10 control sera. The quantitative RIA very clearly differentiated between infected and uninfected individuals with highest **titers** being obtained in teenagers. However, in the series employed, information relevant to immunodiagnosis of S. japonicum infection was contained in the non-quantitative but simple COPT and little was apparently added to the quantitative but expensive RIA.

L21 ANSWER 17 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
1981:207210 Document No.: BA71:77202. STUDIES ON THE POSSIBLE CAUSES OF COUGH IN CALVES AT PASTURE. BOON J H. STERKENBURG 1, 3904 JS VEENENDAAL, NETH.. TIJDSCHR DIERGENEESKD, (1980 (RECD 1981)) 105 (24), 1077-1083. CODEN:

TIDIAY. ISSN: 0040-7453. Language: Dutch.

AB Respiratory disease occupies a prominent position in the series of common diseases in calves. An inventory of possible causes of cough was made in calves at pasture. A number of calves on 23, 10 and 8 mixed farms, respectively, were clinically studied. Fecal, sputum and serum samples were collected and examined for the presence of husk worm larvae, husk worm **eggs, antibodies** to specific viruses and lung worms. **Titers** of antibodies to lung worms were determined in the serum samples of a large number of calves from 45 farms. Conclusions were drawn regarding the prevention of virus and lung worm infections in calves at pasture and regarding the diagnosis and prevention of verminous bronchitis in these animals.

L21 ANSWER 18 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 8

1978:233699 Document No.: BA66:46196. EOSINOPHIL MEDIATED DESTRUCTION OF SCHISTOSOMA-MANSONI EGGS IN-VITRO PART 2 THE ROLE OF CYTOPHILIC ANTIBODY. JAMES S L; COLLEY D G. DEP. MICROBIOL., VANDERBILT UNIV. SCH. MED., NASHVILLE, TENN. 37203, USA.. CELL IMMUNOL, (1978) 38 (1), 35-47. CODEN: CLIMB8. ISSN: 0008-8749. Language: English.

AB Peritoneal exudative eosinophils obtained from S. mansoni-infected CBA/J mice cause morphological damage to isolated S. mansoni eggs in a 24 h co-cultivation system in vitro. This egg-destructive activity was complement-independent and was abolished by trypsinization of the cells prior to co-cultivation. Trypsinized cells could be passively sensitized to renewed egg-destructive capacity by preincubation or co-cultivation with immune sera, containing antibodies against a soluble egg antigenic preparation (SEA). Solid phase absorption of immune sera with SEA coupled to Sepharose 4B lowered the anti-**egg antibody titers** of these sera and eliminated their ability to sensitize trypsinized eosinophils. Sera from uninfected mice or from mice infected with Trichinella spiralis did not sensitize trypsinized cells. Addition of immune sera to eosinophil-rich cell populations obtained from uninfected mice also enhanced the egg-destructive capacity of these otherwise non-reactive cells. Therefore, eosinophil-mediated destruction of S. mansoni eggs may be directed by cytophilic antigen-specific factors in sera from S. mansoni infected hosts.

L21 ANSWER 19 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

1976:202447 Document No.: BA62:32447. EXPERIMENTAL PAN ENCEPHALITIS INDUCED IN SUCKLING MICE BY PARAINFLUENZA TYPE 1 6 94 VIRUS PART 2 VIROLOGIC STUDIES. GILDEN D H; WROBLEWSKA Z; CHESLER M; WELLISH M C; LIEF F S; WOLINSKY J S; RORKE L B. J NEUROPATHOL EXP NEUROL, (1976) 35 (3), 259-270. CODEN: JNENAD. ISSN: 0022-3069. Language: Unavailable.

AB A parainfluenza type 1 isolate from [human] multiple sclerosis brain tissue, 6/94 virus, produced a chronic panencephalitis when inoculated intracerebrally into suckling ICR mice. Immunofluorescent staining revealed 6/94 viral antigen in ependyma, meninges, choroid plexus and perivascular parenchymal sites from day 3 to 128 days after infection. Hemadsorption-neutralizing antibody was first detected between 20-25 days after infection and remained at high **titers** for 7 mo. Using embryonated chicken eggs, virus was recovered from mouse brains for only 8 days, but could be recovered from brains grown in vitro as explants for 37 days after infection. In cell lines established from explanted brain tissue, immunofluorescence was the most sensitive indicator of virus presence, although infectious virus was not produced. Fusion of these mouse brain cells with human (WI38) indicator cells was the most effective means of rescuing 6/94 virus.

L21 ANSWER 20 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

1976:236888 Document No.: BA62:66888. DIETARY ANTIBODIES AND MYO CARDIAL INFARCTION. SCOTT B; MCGUFFIN P; SWINBURNE M L; LOSOWSKY M S. LANCET,

(1976) 2 (7977), 125-126. CODEN: LANCAO. ISSN: 0023-7507. Language: Unavailable.

AB Serum milk, egg and gluten antibody **titers** were measured in 90 men with acute myocardial infarction and compared with those of 36 age-matched male controls. None of the antibody **titers** was higher in the patients with myocardial infarction, nor was there a significant correlation between antibody **titers** and the Norris prognostic index or death before hospital discharge. Immunological mechanisms probably are not involved in the pathogenesis of coronary heart-disease and atherosclerosis.

L21 ANSWER 21 OF 21 CAPLUS COPYRIGHT 2003 ACS

1967:114115 Document No. 66:114115 Effect of papain digested univalent antibody on the morphology, cleavage, and fertilizing capacity of sea urchin eggs. Metz, Charles B.; Thompson, Pamela H. (Univ. of Miami, Coral Gables, FL, USA). Experimental Cell Research, 45(2), 433-49 (English) 1967. CODEN: ECREAL. ISSN: 0014-4827.

AB Antisera were prepd. by immunizing rabbits with egg jelly and jellyless egg homogenates of the sea urchin, Lytechinus variegatus. Samples of the .gamma.-globulin fraction of the antisera were degraded to the nonagglutinating, nonpptg. univalent (3.5 S) form by papain digestion and redn. Most of the univalent (3.5 S) antibody prepns. failed to produce the morphological changes in eggs that characteristically result from treatment with multivalent (7 S) antibody. These changes include egg jelly pptn. by anti-egg jelly antibody and egg wrinkling produced by anti-egg homogenate antibody. Univalent anti-egg jelly sera produced a hyaline surface effect in most egg batches and membrane elevation in a few others. Univalent antibody pretreated eggs failed to undergo the characteristic morphological changes upon subsequent addn. of multivalent antibody. Such inhibition was complete in the case of egg surface wrinkling and partial for egg jelly pptn. Univalent antibody pretreated dejellied eggs showed surface wrinkling following treatment with anti-rabbit .gamma.-globulin sheep serum (antiglobulin or Coombs' test). It is concluded that the egg wrinkling produced by anti-egg homogenate sera depends upon the cross-linking of antigens by multivalent antibody. Univalent anti-egg jelly .gamma.-globulin inhibited cleavage of fertilized eggs. However, this inhibiting action was reduced in **titer** as compared to the parent multivalent antibody. Univalent anti-egg homogenate antibody failed to affect the fertilizability of dejellied or demembranated (protease treated) eggs. Dejellied eggs failed to fertilize if first treated with univalent anti-egg homogenate antibody and subsequently exposed to anti-rabbit .gamma.-globulin sheep serum (antiglobulin or Coombs' test). Dejellied eggs which have been rendered unfertilizable by treatment with normal, multivalent anti-egg homogenate serum recover considerable fertilizability following treatment with protease. It is concluded that in L. variegatus the fertilization inhibiting action of normal multivalent 7 S anti-egg homogenate antibody depends upon cross-linking of neighboring antigens, not to the blocking of specific antigenic sites by complementary antibody. 34 references.

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=> s antibody
L22    2393833 ANTIBODY

=> s l22 and IgY
L23         954 L22 AND IGY

=> s l23 and egg yolk
L24         549 L23 AND EGG YOLK

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L28 ANSWER 1 OF 37 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
2002434714 EMBASE Hsp60 specific **antibodies** in egg yolks from laying hens naturally infected with Salmonella enterica subspecies enterica serovar Enteritidis. Dera-Tomaszewska B.; Wysocki J.; Kunikowska D.; Dziadziuszko H.; Glosnicka R.. B. Dera-Tomaszewska, National Salmonella Centre, Department of Immunology, Inst./Maritime and Tropical Medicine, Powstania Styczniowego 9B, 81-519 Gdynia, Poland. bodeto@immt.gdynia.pl. Comparative Immunology, Microbiology and Infectious Diseases 26/1 (37-45) 2003.
Refs: 26.
ISSN: 0147-9571. CODEN: CIMIDV.
Publisher Ident.: S 0147-9571(02)00018-8. Pub. Country: United Kingdom.
Language: English. Summary Language: English.
AB Heat shock protein (Hsp) 60 of Salmonella appears to be involved in pathogenesis of infectious processes and host immune responses. Eggs of laying hens from two Salmonella Enteritidis naturally infected flocks (I-acute outbreak of infection; II-occasional bacteria excretion) and one control flock (III) were tested for the presence of yolk **antibodies** (**IgY**) against Hsp60 by applying enzyme-linked immunosorbent assay (ELISA). The levels of specific immunoglobulins were related to those against lipopolysaccharide (LPS) and flagellin, the antigens of the established immunological importance in S. Enteritidis infections. Within flock III, the **antibody** concentrations were consistently low. Elevated levels were detected in eggs from two infected flocks. Levels of specific **IgY** measured for flock I were higher than those in flock II; the greatest difference was observed for anti-Hsp60. This report indicates a probable important role of Hsp60 as a target of the hens' immune response, especially during the acute phase of S. Enteritidis infection. .COPYRGT. 2002 Elsevier Science Ltd. All rights reserved.

L28 ANSWER 2 OF 37 SCISEARCH COPYRIGHT 2003 ISI (R)
2002:755883 The Genuine Article (R) Number: 591UB. Use of egg yolk-derived immunoglobulin as an alternative to antibiotic treatment for control of Helicobacter pylori infection. Shin J H; Yang M; Nam S W; Kim J T; Myung N H; Bang W G; Roe I H (Reprint). Dankook Univ, Dept Gastroenterol, Coll Med, San 29, Cheonan 330714, South Korea (Reprint); Dankook Univ, Dept Gastroenterol, Coll Med, Cheonan 330714, South Korea; Dankook Univ, Res Ctr Gastroenterol, Coll Med, Cheonan 330714, South Korea; Dankook Univ, Dept Pharmacol, Coll Med, Cheonan 330714, South Korea; Dankook Univ, Dept Surg, Coll Med, Cheonan 330714, South Korea; Dankook Univ, Dept Pathol,

Coll Med, Cheonan 330714, South Korea; Korea Univ, Coll Life & Environm Sci, Dept Agr Chem, Seoul, South Korea. CLINICAL AND DIAGNOSTIC LABORATORY IMMUNOLOGY (SEP 2002) Vol. 9, No. 5, pp. 1061-1066. Publisher: AMER SOC MICROBIOLOGY. 1752 N ST NW, WASHINGTON, DC 20036-2904 USA. ISSN: 1071-412X . Pub. country: South Korea. Language: English.
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The present study evaluated the potential use of immunoglobulin prepared from the egg yolk of hens immunized with Helicobacter pylori (immunoglobulin Y [**IgY**] -Hp) in the treatment of H. pylori infections. The purity of our purified **IgY**-Hp was 91.3%, with a yield of 9.4 mg of **IgY** per ml of egg yolk. The **titer** for **IgY**-Hp was 16 times higher than that for **IgY** in egg yolk from nonimmunized hens, and **IgY**-Hp significantly inhibited the growth and urease activity of H. pylori in vitro. Bacterial adhesion on AGS cells was definitely reduced by preincubation of both H. pylori (10(8) CFU/ml) and 10 mg of **IgY**-Hp/ml. In Mongolian gerbil models, **IgY**-Hp decreased H. pylori-induced gastric mucosal injury as determined by the degree of lymphocyte and neutrophil infiltration. Therefore, in this experimental model, H. pylori-associated gastritis could be successfully treated by orally administered **IgY** -Hp. The immunological activity of **IgY**-Hp stayed active at 60degreesC for 10 min, suggesting that pasteurization can be applied to sterilize the product. Fortification of food products with this immunoglobulin would significantly decrease the H. pylori infection. In conclusion, the **IgY**-Hp obtained from hens immunized by H. pylori could provide a novel alternative approach to treatment of H. pylori infection.

L28 ANSWER 3 OF 37 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1

2002:634632 Document No.: PREV200200634632. Production of a specific yolk **antibody** against enterotoxigenic E. coli F41 fimbrial antigen.
Shin, S. O.; Kim, J. W. (1). (1) Department of Animal Science and Resources, Dankook University, Cheonan: kijuw@dankook.ac.kr South Korea. Journal of Animal Science and Technology, (October, 2002) Vol. 44, No. 5, pp. 633-642. print. Language: Korean.

AB Enteric colibacillosis has economically become an important disease of young animals as a result of increasing intensification of farrowing management. The objective of this experiment is to isolate fimbrial antigen from enterotoxigenic E. coli F41, to develop specific polyclonal **IgY** which can effectively neutralize or reduce the proliferation of pathogens in feed or living animal system, and to apply **IgY** technologies to animal industry. The results obtained were as follows: The molecular weight of the purified F41 antigen was 29,500 dalton on sodium dodecyl sulfate-polyacrylamide gels. Fimbrial antigen was confirmed by the western blot method. It was observed that after immunization the level of serum **antibody titer** of laying hen was shown in two weeks and gradually increased. The **antibody titer** in egg yolk appeared two weeks after it was shown in serum **antibody** . The **titers** of egg yolk **antibody** were gradually increased to the maximum level of 320,000 (antigen 50 mug/ml), 450,000 (antigen 200 mug/ml), and 320,000 (antigen 600 mug/ml). According to the results of specificity test by ELISA, the anti-F41 **antibodies** from chicken serum and egg yolk reacted only with ETEC F41 antigen. There was no cross reaction with other ETEC strains (K88, K99, and 987P). In vitro condition, as a result of antigen binding ability of yolk **antibodies**, bacterial concentration was rapidly decreased to 105 CFU/ml from 109 CFU/ml when 2-4 mg/ml of freeze dried WSF (water soluble fraction) was added.

L28 ANSWER 4 OF 37 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.DUPLICATE 2

2003008393 EMBASE Retention of specific yolk **IgY** in the human oral

cavity. Carlander D.; Kollberg H.; Larsson A.. Dr. A. Larsson, Department of Medical Sciences, Clinical Chemistry, University Hospital, Uppsala S-751 85, Sweden. anders.larsson@clm.uas.lul.se. BioDrugs 16/6 (433-437) 2002.
Refs: 22.
ISSN: 1173-8804. CODEN: BIDRF4. Pub. Country: New Zealand. Language: English. Summary Language: English.

AB Introduction: The increasing prevalence of antibiotic-resistant bacteria emphasises the need for new treatments that can replace traditional antibiotics. Oral immunotherapy with yolk **antibodies** from hyperimmunised hens is a new promising treatment strategy, primarily for infections in the mouth and gastrointestinal tract. Several studies show that bacterial and viral infections can be prevented with egg yolk immunoglobulin (**IgY**) in a dose-dependent manner. Oral treatment could potentially be used against many frequently encountered diseases (e.g. common cold, tonsillitis and caries). Group Studied: Healthy volunteers. Study Design: We studied the presence of yolk anti-Pseudomonas aeruginosa **antibodies** in saliva from healthy volunteers over time after 1 or 2 minutes' mouth rinse, performed in the evening, with an aqueous **IgY antibody** preparation. The test persons rinsed the mouth with 8.0ml phosphate buffered saline before gargling with the **antibody** preparation 8 and 24 hours later. Statistical analysis was performed with the Mann-Whitney U test. Methods: The **antibody** titres in the mouth rinses were tested for their specific activity against P. aeruginosa by ELISA. Results and Conclusion: The next morning there were still active **antibodies** detected in the saliva from 18 of 19 subjects. After 24 hours, active **antibodies** could be detected in saliva from only a few of the subjects. A 2-minute mouth rinse resulted in higher mean ELISA absorbance values than a 1-minute rinse.

L28 ANSWER 5 OF 37 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
2002248135 EMBASE Anti-enteropathogenic Escherichia coli immunoglobulin Y isolated from eggs laid by immunised Leghorn chickens. Amaral J.A.; De Franco M.T.; Carneiro-Sampaio M.M.S.; Carbonare S.B.. Dr. S.B. Carbonare, Lab. de Imunogenetica, Instituto Butantan, Av. Dr. Vital Brasil 1500, CEP 05503-900 Sao Paulo, SP, Brazil. carbosol@usp.br. Research in Veterinary Science 72/3 (229-234) 2002.
Refs: 30.
ISSN: 0034-5288. CODEN: RVTSA. Pub. Country: United Kingdom. Language: English. Summary Language: English.

AB **IgY**, the egg yolk immunoglobulin, equivalent to the IgG from mammals, has been used in veterinary practice for passive immunisation against bacterial or viral infectious diseases. Enteropathogenic Escherichia coli (EPEC) is the main etiological agent of infantile diarrhoea in Brazil and other developing countries. Our aims were to isolate immunoglobulin **IgY** from egg yolk laid by EPEC-immunised Leghorn chickens and to study its reactivity to the antigens from this pathogen, including some virulence factors. Leghorn chickens were immunised with a bacterial suspension intramuscularly (three hens) or intravenously (three hens) or with PBS (two hens). Eggs were collected over a period of 17 weeks. **IgY** isolation procedures were carried out by salt precipitation (ammonium sulphate, in solid form) followed by centrifugations and dialysis. Final preparations were submitted to sodium dodecyl sulphate polyacrylamide gel electrophoresis (SDS-PAGE), enzyme-linked immunosorbent assay (ELISA) and immunoblotting. All immunised animals developed good levels of **antibodies** reactive to whole bacteria or lipopolysaccharide (LPS), in contrast to the control ones. Immunoblottings allowed the recognition of several antigenic fractions of bacterial antigens, some of which had a molecular weight compatible with bacterial virulence factors, confirming the efficacy of the immunisation and the adequacy of the method. .COPYRGT. 2002 Elsevier

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L28 ANSWER 6 OF 37 CAPLUS COPYRIGHT 2003 ACS
2003:16084 Study of preparation of yolk immunoglobulin against Escherichia coli O157:H7 and its passive protective effect. Wang, Zhongze; Hou, Xiaojun; Yin, Jun; Song, Wei; Zhang, Songle; Wang, Wei; Bai, Jie (Beijing Institute of Microbiology and Epidemiology, Beijing, 100071, Peop. Rep. China). Zhongguo Renshou Gonghuanbing Zazhi (Chinese Journal of Zoonoses), 18(2), 17-19 (Chinese) 2002. CODEN: ZRGZAP. ISSN: 1002-2694. Publisher: Zhongguo Renshou Gonghuanbing Zazhi Bianweihui.
AB To prep. Yolk Ig (**IgY**) and study the passive protective effect of **IgY** against EHEC 0.157:H7. Methods: No. 933 stain of EHEC 0157.H7 was used to prep. antigen and then SPF LaiHang chicken was immunized. **IgY antibody** was extd. from the prolific eggs through degrease and saltingout methods. And then the **IgY** was used in the expts. of suckling mice to test the toxicity and the protective effect of it. Results: The **titer** of **IgY** was above 1:200,000 by ELISA assay. The purity and recovery rate of the **IgY** we obtained is high. The toxicity to animal of **IgY** was not found, and the passive protective expt. showed that **IgY** has evident protective effect to the suckling mice infecting model. Conclusions: (1) High **titer IgY antibody** may be yielded from SPF chicken through routine immunity technol. (2) Degrease and salting out are simple and convenient methods in prepg. **IgY**. (3) Suckling mice intestinal tract infecting model of EHEC 0157:H7 was established. (4) **IgY antibody** is an alive oral medicament to cure enteral infection.

L28 ANSWER 7 OF 37 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
2001:519527 Document No.: PREV200100519527. Isolation of immunoglobulin in yolk (**IgY**) and rabbit serum immunoglobulin G (IgG) specific against bovine lactoferrin by immunoaffinity chromatography. Tu, Yann-Ying; Chen, Chao-Cheng; Chang, Hung-Min (1). (1) Graduate Institute of Food Science and Technology, National Taiwan University, Taipei, 106: changhm@ccms.ntu.edu.tw Taiwan. Food Research International, (2001) Vol. 34, No. 9, pp. 783-789. print. ISSN: 0963-9969. Language: English. Summary Language: English.
AB Hens were intramuscularly immunized and rabbits were subcutaneously immunized once every two weeks for 6 weeks using bovine lactoferrin (LF) as antigen. **Antibody titers** of both yolk (**IgY**) and rabbit serum (IgG) were as high as 1.68X108 at the 6th and 8th weeks, respectively, after the initial immunization treatment. However, **antibody titer** against LF in yolk was 9.4X107 at 16 weeks. While **antibody titer** of rabbit serum declined sharply to 2.1X107 at the 12th week and to 2.6X106 at the 13th week after the initial immunization. The purification efficiency (specific activity of purified **antibody** against LF/specific activity of the corresponding antiserum or yolk against LF) of rabbit serum IgG purified by laboratory-prepared LF-Sepharose 4B immunoaffinity column (0.05 mg LF/ml wet gel) was about 2400, similar to that of **IgY** purified by LF-Sepharose 4B immunoaffinity column. Different amounts (0-15.0 mg) of **IgY** purified by LF-Sepharose 4B immunoaffinity chromatography were applied to the same column to determine the binding capacity (qm) and dissociation constant (Kd) of LF-Sepharose 4B immunoaffinity gel for **IgY** specific against LF. It was found that qm was 0.81 mg **IgY**/ml wet gel (1.620 mg **IgY**/mg LF) and Kd was 6.4X10-6 M as determined by Langmuir-type adsorption isotherms.

L28 ANSWER 8 OF 37 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.DUPLICATE 4
2001394407 EMBASE Oral immunisation of chickens using cholera toxin B subunit and softigen(R) as adjuvants results in high **antibody** titre in

the egg yolk. Hedlund G.P.; Hau J.. Prof. J. Hau, Department of Physiology, Division of Comparative Medicine, Uppsala University BMC, Box 572, 751 23 Uppsala, Sweden. In Vivo 15/5 (381-384) 2001.
Refs: 25.
ISSN: 0258-851X. CODEN: IVIVE4. Pub. Country: Greece. Language: English. Summary Language: English.

AB Oral immunisation by gavage of laying hens with human immunoglobulin G (IgG) combined with a number of potential adjuvants was performed. The resulting immuno-specific egg yolk (**IgY**) **antibodies** were quantified by ELISA. The following adjuvants were tested: A Poly(lactide-co-glycolide) (PLG) microspheres, Cholera toxin B-subunit (CTB), CTB conjugated with glutaraldehyde, Dimethyl dioctadecyl ammonium bromide (DDA), and Softigen.RTM. (pegylated C8/C10 mono/di glyceride). Hens in a positive control group were immunised with human IgG in saline emulsified with an equal volume of Freund's Incomplete Adjuvant. High titres of immunospecific **IgY antibodies** against human IgG were recorded in the eggs from the chickens immunised orally with the antigen combined with glutaraldehyde conjugated CTB and in the chickens immunised with the antigen combined with Softigen.RTM.. The present results show that invasive technique related stress could be eliminated/reduced in polyclonal **antibody** producing animals.

L28 ANSWER 9 OF 37 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.DUPLICATE 5
2001019474 EMBASE Characterization of an **antibody** to the human melatonin mt1 receptor. Williams L.M.; Drew J.E.; Bunnett N.W.; Grady E.; Barrett P.; Abramovich D.R.; Morris A.; Slater D.. L.M. Williams, Molecular Physiology Group, The Rowett Research Institute, Greenburn Road, Bucksburn, Aberdeen AB21 9SB, United Kingdom. l.williams@rri.sari.ac.uk. Journal of Neuroendocrinology 13/1 (94-101) 2001.
Refs: 37.
ISSN: 0953-8194. CODEN: JOUNE2. Pub. Country: United Kingdom. Language: English. Summary Language: English.

AB Melatonin acts via high affinity, G-protein coupled, seven transmembrane domain receptors. To precisely localize these receptors, **antibodies** were raised in chickens against a 15 amino acid fragment at the intracellular C-terminal region of the human melatonin receptor subtype mt1 (DSSNDVADRVKWKPS, mt1(338-352)). A chimeric form of the receptor with a hydrophilic Flag peptide (DYKDDDDK) in sequence with the extracellular N-terminus (Flag-mt1) was generated by polymerase chain reaction and expressed in mammalian cell lines. An **IgY antibody** (Y31), which gave high **antibody** titres by enzyme-linked immunosorbent assay, was used to localize Flag-mt1 in stably transfected cells by immunofluoresence. Flag-mt1 localization with Y31 was identical to that obtained with the M5 **antibody** directed against the Flag epitope and was mainly localized to the Golgi apparatus with some staining at the cell surface. No staining was seen in untransfected cells with either **antibody**. Y31 staining was abolished using **antibody** preabsorbed with peptide antigen. Y31 immunofluorescence in fetal human kidney sections was restricted to nephrogenic regions and matched that of 2-((125)I)iodomelatonin binding and mt1 gene expression by in situ hybridization. Y31 was used to immunoprecipitate biotinylated membrane proteins from Flag-mt1 stably transfected and untransfected CHO cells. Western blotting of immunoprecipitated proteins revealed two major bands specific to stably transfected cells, one at 63 kDa and one at 86 kDa. The first band almost certainly corresponds to the glycosylated form of Flag-mt1 and the second band to receptor dimers. Thus, Y31 **antibody** is suitable for use in detecting the human mt1 receptor subtype in tissues and in transfected cells.

L28 ANSWER 10 OF 37 MEDLINE DUPLICATE 6
2002005173 Document Number: 21030633. PubMed ID: 11176319. Randomized, placebo-controlled, clinical trial of hyperimmunized chicken egg yolk

immunoglobulin in children with rotavirus diarrhea. Sarker S A; Casswall T H; Juneja L R; Hoq E; Hossain I; Fuchs G J; Hammarstrom L. (Clinical Sciences Division, International Center for Diarrheal Disease Research, Bangladesh (ICDDR,B) Centre for Health and Population Research, Dhaka.. ssarker@icddrb.org) . JOURNAL OF PEDIATRIC GASTROENTEROLOGY AND NUTRITION, (2001 Jan) 32 (1) 19-25. Journal code: 8211545. ISSN: 0277-2116. Pub. country: United States. Language: English.

AB BACKGROUND: Hyperimmunized bovine colostrum containing **antibodies** has been shown to be effective in the treatment of rotavirus diarrhea. **Antibodies** derived from eggs of immunized hens may be a less expensive and more practical alternative. In this study, children with proven rotavirus diarrhea were treated with immunoglobulin extracted from eggs of chicken immunized with human rotavirus strains. METHODS: In a randomized, double-blind study, 79 children with known rotavirus diarrhea were assigned to receive either 10 g hyperimmune egg yolk (HEY) daily in four equally divided doses for 4 days (HEY group) or a similar preparation obtained from nonimmunized chicken (placebo group). The daily stool frequency and amount, oral rehydration solution iORS) intake, and presence of rotavirus in the stool were monitored for 4 days. RESULTS: In the HEY-treated group, there was significant reduction in stool output (in grams per kilogram per day; HEY vs. placebo; 87+/-59 vs. 120+/-75, P = 0.03), and significant reduction of ORS intake (in milliliters per kilogram per day) (HEY vs. placebo; 84+/-46 vs. 122+/-72, P = 0.008) on day 1 and clearance of virus on day 4 (HEY vs. placebo; 73% vs. 46%, P = 0.02). There was, however, no difference in diarrheal duration between the groups. CONCLUSIONS: Treatment with HEY against four human rotavirus strains resulted in modest improvement of diarrhea associated with earlier clearance of rotavirus from stools. These results indicate an encouraging role of HEY in the treatment of rotavirus-induced diarrhea in children. Further studies are needed to optimize the dose and neutralization **titer** and thus improve the efficacy of egg yolk immunoglobulin **IgY** derived from immunized hens.

L28 ANSWER 11 OF 37 CAPLUS COPYRIGHT 2003 ACS

2000:628181 Document No. 133:192000 Specific egg yolk **antibodies** **IgY**, the obtainment and use thereof. Kobilke, Hartmut (Germany). PCT Int. Appl. WO 2000052055 A1 20000908, 19 pp. DESIGNATED STATES: W: BY, CZ, DE, HU, JP, PL, SK, UA, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (German). CODEN: PIXXD2. APPLICATION: WO 2000-DE547 20000221. PRIORITY: DE 1999-19910159 19990226.

AB The invention relates to specific egg yolk **antibodies** **IgY** and the obtainment and use thereof for immunotherapy in animal breeding and animal prodn. Pullets are immunized and repeatedly boostered over the entire laying period of twelve to thirteen months. The obtained **IgY antibodies** in the form of whole egg powder, egg yolk powder or lyophilisates are given to the animal stock via ready feed or drinking water. The **IgY antibodies** can be used as the basis in monospecific ELISA kits for assocd. diagnostics and **titer** quality control as well as for **titer** development.

L28 ANSWER 12 OF 37 CAPLUS COPYRIGHT 2003 ACS

2000:433278 Document No. 133:71354 Recombinant bacteria producing Escherichia coli type 2 verotoxin for production of antitoxin. Williams, James A.; Byrne, Lisa Marie (Ophidian Pharmaceuticals, Inc., USA). U.S. US 6080400 A 20000627, 83 pp., Cont.-in-part of U.S. Ser. No. 410,058, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1997-816977 19970313. PRIORITY: US 1995-410058 19950324.

AB Verotoxin genes (A and B subunits alone and together as whole toxins) are expressed in suitable prokaryotic expression systems (such as Escherichia coli) to achieve high levels of VT antigen prodn. Neutralizing antitoxin directed against verotoxins may be produced using the recombinant verotoxin subunits. Thus, high **titer** verotoxin

antibodies were generated in laying hens hyperimmunized with either recombinant E. coli O157:H7 verotoxin VT1 or VT2 (rVT1 and rVT2) treated with glutaraldehyde and mixed with adjuvant. Toxin-reactive polyclonal **antibodies** (**IgY**) were isolated from egg yolks using a 2-step polyethylene glycol bulk fractionation procedure. Enzyme immunoassay (EIA) and Western blot anal. showed that the resulting egg prepns. contained high **titer IgY** that reacted with both the immunizing and the heterologous toxins. Vero cytotoxicity of rVT1 and rVT2 could be completely inhibited by VT **IgY**, and the **antibodies** also demonstrated substantial verotoxin cross-neutralization. The efficacy of verotoxin **antibodies** was demonstrated using multiple murine disease models, showing that **antibodies** prevented both the morbidity and lethality of homologous and heterologous toxins using a toxin/antitoxin premix format. Mice infected orally with a LD of viable E. coli O157:H7 were protected from both morbidity and lethality when treated parenterally 4 h post-infection with either rVT1 or rVT2 **antibodies**, and mice given a LD of E. coli O91:H21 and treated parenterally up to 10 h later with rVT1 **IgY** administered parenterally were also protected from both morbidity and lethality. These antitoxins are useful in the treatment of humans and other animals infected with enterohemmorrhagic E. coli, as well as for diagnostic assays to detect the presence of toxin in a sample.

L28 ANSWER 13 OF 37 CAPLUS COPYRIGHT 2003 ACS

2000:298425 Document No. 133:57335 Maternally transferred **antibodies** from DNA-immunized avians protect offspring against hepadnavirus infection. Rollier, Christine; Charollois, Celine; Jamard, Catherine; Trepo, Christian; Cova, Lucyna (Unite de Recherche sur les Virus des Hepatites et les Pathologies Associees, Institut National de la Sante et de la Recherche Medicale, Unite 271, Lyon, F-69424, Fr.). Journal of Virology, 74(10), 4908-4911 (English) 2000. CODEN: JOVIAM. ISSN: 0022-538X. Publisher: American Society for Microbiology.

AB The outcome and protective efficacy of maternal **antibodies** elicited by DNA immunization to the large (L) hepadnavirus envelope protein were studied using the duck hepatitis B virus (DHBV) model. Following genetic immunization of breeding ducks with a DHBV L protein gene-bearing plasmid, specific and highly neutralizing **antibodies** were transferred from the sera of immunized ducks, via the egg yolk, to the progeny of vaccinees. Interestingly, large amts. (60 to 100 mg/egg) of high-**titer** and L protein-specific yolk Igs (Ig Y) accumulated in the egg yolk. These results suggest that eggs from genetically immunized avians may represent a potent source of DNA-designed **antibodies** specific to viral antigen. Importantly, these **antibodies** are vertically transmitted and protect offspring against high-**titer** DHBV challenge.

L28 ANSWER 14 OF 37 MEDLINE DUPLICATE 7

2000464897 Document Number: 20470749. PubMed ID: 11020070. Adjuvant effects of various lipopeptides and interferon-gamma on the humoral immune response of chickens. Erhard M H; Schmidt P; Zinsmeister P; Hofmann A; Munster U; Kaspers B; Wiesmuller K H; Bessler W G; Stangassinger M. (Institut fur Physiologie, Physiologische Chemie und Tierernahrung, Tierarztliche Fakultat, Universitat Munchen, Germany.. erhard@rz.uni-leipzig.de) . POULTRY SCIENCE, (2000 Sep) 79 (9) 1264-70. Journal code: 0401150. ISSN: 0032-5791. Pub. country: United States. Language: English.

AB The adjuvant effects of various lipopeptides and recombinant chicken interferon gamma (IFN-gamma) on the humoral immune response of laying hens was investigated in four immunization studies. We used the lipopeptide Pam3Cys-Ser-(Lys)4 (PCSL), the conjugate P-Th1 consisting of the lipopeptide P3CS and the T-helper epitope Th1 (FISEAIIHVLHSRHPG), and the

conjugate P-Th2 of the lipopeptide P3CSS and the T-helper epitope Th2, which corresponds to the peptide EWEFVNTPPLV, as adjuvants. Human serum albumin (HSA), recombinant bovine somatotropin (RBST), and human immunoglobulin G (IgG) served as antigens in the different experiments. All tested adjuvants enhanced the humoral immune response with various intensities. Chickens showed high **antibody titers** after the immunization with HSA even without adjuvant, but the adjuvant effects of PCSL and the combination of PCSL and recombinant chicken interferon-gamma (IFN-gamma) were much more pronounced using the antigens RBST and IgG. Especially after the third immunization, higher **titers** of **antibodies** were induced by the coadministration of P-Th1 and, to a greater extent, by the combination of PCSL and P-Th1 compared with the use of PCSL. Also, chickens that had received PCSL and P-Th2 showed the highest immune response, even after the second booster. The average concentrations of chicken immunoglobulin Y were significantly higher in 5-mo-old chickens (9.4 mg/mL serum and 10.1 mg/mL egg yolk) compared with 9-mo-old chickens (5.9 mg/mL serum and 5.1 mg/mL egg yolk). The specific serum **antibody** response was higher in the older chickens than in the younger chickens. Because chicken **antibodies** are likely to be used increasingly for diagnostic and therapy in the future, lipopeptides and recombinant chicken IFN-gamma may find many applications as adjuvants, thus contributing to the welfare of experimental animals.

L28 ANSWER 15 OF 37 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 8

2001:372805 Document No.: PREV200100372805. Production of specific egg yolk **antibody** against K99(F5) fimbriae from Enterotoxigenic Escherichia coli. Kim, J. W. (1); Kim, D. K.; Kim, C.. (1) Department of Animal Science and Resources, Dankook University, Cheonan, 330-714: kijuw@anseo.dankook.ac.kr South Korea. Journal of Animal Science and Technology, (June, 2000) Vol. 42, No. 3, pp. 371-378. print. ISSN: 0367-5807. Language: Korean. Summary Language: English; Korean.

AB The adhesive antigen K99 of Enterotoxigenic Escherichia coil strain was isolated and purified. The K99 antigen consist of single peptide with molecular mass of 18kDa and was demonstrated by Western blot analysis. In addition, the antigen-**antibody** reaction of K99 antigen was specifically occurred only with K99 monoclonal **antibody**. The **antibody titer** of immunized hen with adhesive antigen was shown at 2 weeks after immunization. At the time of 8 weeks, the **titer** of egg yolk revealed higher than that of sera. Anti-K99 yolk **antibody** did not react with different strains (K88, 987P) but reacted only with ETEC K99 strains. The immunoglobulin (**IgY**) content in an egg yolk and in water soluble fraction were 150mg and 120mg, respectively. Thus, the recovery rate of **IgY** was 87 percent in this study.

L28 ANSWER 16 OF 37 CAPLUS COPYRIGHT 2003 ACS

2001:249016 Document No. 135:121279 Applications of egg immunoglobulins in immunoaffinity chromatography. Li-Chan, E. C. Y. (Faculty of Agricultural Sciences, University of British Columbia, Vancouver, BC, Can.). Egg Nutrition and Biotechnology, [International Egg Symposium], 2nd, Banff, AB, Canada, Apr. 5-8, 1998, Meeting Date 1998, 323-339. Editor(s): Sim, Jeong S.; Nakai, Shuryo; Guenter, Wilhelm. CABI Publishing: Wallingford, UK. (English) 2000. CODEN: 69BCX3.

AB A review with 39 refs. High **titers** of specific **antibodies** can be obtained in egg yolk Igs (**IgY**) by immunization of laying hens against target antigens. For prophylactic or therapeutic applications, **IgY** may be used directly in the form of yolk powder or as a water-sol. fraction. However, applications involving **IgY** for diagnostic assays or immunoaffinity purifn. of bioactive mols. require isolation of specific **antibody** fractions

from the crude Igs. In all of these cases, the effects of various conditions and processes on the structural properties and **antibody** activity of **IgY** must be considered. Yolk **IgY** has been reported to be less stable than mammalian IgG under low pH and elevated temp. conditions, such as may be encountered in the gastric tract or during immunoaffinity chromatog. Recent results indicate that **IgY** is stable even after 2 h at pH 2.8, provided the temp. is at or below about 25.degree.C. Incorporation of protective agents such as sucrose or trehalose during acidic pH elution can prevent the denaturation of **IgY**, which has been obsd. as an increase in surface hydrophobicity monitored by fluorescence probes. High ionic strength (e.g. 1.5 M NaCl) and processes of concn., such as ultrafiltration or freeze-drying, promote aggregation, insolubilization and subsequent redn. in **antibody** activity of **IgY** mols. To avoid these changes, ion-exchange chromatog. may be recommended as an alternative process for concn., and **antibody** prepns. may be stored as frozen solns. or freeze-dried only under low ionic strength conditions. Using these optimal conditions to maintain structural and **antibody** stability, immunoaffinity columns bearing immobilized yolk **antibodies** have been applied successfully for simple one-step isolation of value-added proteins such as lactoferrin and Igs from colostrum, milk or cheese whey.

L28 ANSWER 17 OF 37 CAPLUS COPYRIGHT 2003 ACS

2000:855449 Document No. 134:352058 Production and isolation of polyclonal immunoglobulins from egg yolk of hens immunized with Sendai virus. Bizhanov, G.; Vyshniauskis, G.; Jonauskiene, I. (Inst. of Immunology, Vilnius, Lithuania). Baltic Journal of Laboratory Animal Science, 10(2), 72-78 (Russian) 2000. CODEN: BJLSFK. ISSN: 1407-0944. Publisher: PJSC Grindeks.

AB Hens were immunized with partially purified Sendai virus which has been grown in chicken embryos. The **titers** of specific **antibodies** to Sendai virus varied from 13.0 to 15.0 (log2) during four months after the immunization while the **IgY** concn. varied in the range from 2.7 to 3.5 mg/mL of egg yolk. **IgY** was isolated from the egg yolk by water diln. method and compared with 2 other methods (PEG-6000, chloroform) in terms of **IgY** yield, total protein content, **IgY** concn., and specific activity of **IgY**. The total protein content and **IgY** concn. when purified by chloroform were higher (2.3-fold in both cases) than that of the others. The specific activity of **IgY** obtained using PEG-6000 and chloroform was higher (1.3-fold) than in samples obtained by water diln. method. The samples of **IgY** did not contain **antibodies** against proteins of chicken embryo.

L28 ANSWER 18 OF 37 CAPLUS COPYRIGHT 2003 ACS

2000:289578 Document No. 133:88007 Preparation of chicken egg yolk **antibody** and its heterogeneity. Yang, Yao-zhong; Song, Yu-wen; Ou, Ling; Fan, Long-bin; Yuan, Qin-sheng (Department of Applied Biology, ECUST, Shanghai, 200237, Peop. Rep. China). Huadong Ligong Daxue Xuebao, 26(1), 53-56 (Chinese) 2000. CODEN: HLIXEV. ISSN: 1006-3080. Publisher: Huadong Ligong Daxue Xuebao Bianjibu.

AB **Titer** and avidity development of the anti-BSA **IgY** in egg yolk during the immunization period, the influences of pH and (NH4)2SO4 on extn. of **IgY** from dild. egg yolk and the heterogeneity of anti-BSA **IgY** were discussed. The optimal condition of acidified treatment and salt pptn. were pH5.1 and 2.21 mol/L (NH4)2SO4, resp. The manifold **antibodies** with different chromatog. behaviors were discovered through immunoaffinity column chromatog. or Fe3+ metal-chelated affinity column chromatog. of anti-BSA **IgY**. Expts. show that anti-BSA **IgY** in immune egg yolk probably exists not only with diversity of avidity or specificity but also with difference of fundamental structure or physico-chem. properties.

L28 ANSWER 19 OF 37 SCISEARCH COPYRIGHT 2003 ISI (R) DUPLICATE 9
2000:215143 The Genuine Article (R) Number: 292WP. Immunochromatographic detection of bovine rotavirus using egg yolk **antibodies**.
Reschova S (Reprint); Franz J; Stepanek J; Rozkosna A. VET RES INST, HUDCOVA 70, CS-62132 BRNO, CZECH REPUBLIC (Reprint). VETERINARNI MEDICINA (FEB 2000) Vol. 45, No. 2, pp. 33-37. Publisher: INST AGRICULTURAL FOOD INFORMATION. SLEZSKA 7, PRAGUE 120 56, CZECH REPUBLIC. ISSN: 0375-8427. Pub. country: CZECH REPUBLIC. Language: English.
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB An immunochromatographic test (ICT) for the detection of bovine rotavirus in fecal samples using the specific anti-rotavirus colloid gold-bound immunoglobulin isolated from egg yolks (**IgY**) of immunized hens has been developed. The yield of **IgY** was 100 to 150 mg per yolk and ELISA **antibody titers** ranged between 50 000 and 100 000. ICT was used for 130 fecal samples collected from calves aged from 1 to 50 days. A comparison with ELISA showed 90.7% agreement. The values of specificity and sensitivity were 97.3% and 82.1%, respectively. In an analogous comparison with Dot-ELISA, the agreement, specificity and sensitivity values obtained for ICT were 96.9%, 96.4%, and 97.8%, respectively. Detection of rotavirus double-stranded RNA by agar-gel electrophoresis resulted in 90.3% agreement with ICT.

L28 ANSWER 20 OF 37 MEDLINE
1999106711 Document Number: 99106711. PubMed ID: 9890037. Introduction to poultry vaccines and immunity. Sharma J M. (College of Veterinary Medicine, University of Minnesota, St. Paul 55108, USA.) ADVANCES IN VETERINARY MEDICINE, (1999) 41 481-94. Ref: 62. Journal code: 9714525. ISSN: 1093-975X. Pub. country: United States. Language: English.
AB The poultry industry constitutes a significant sector of world agriculture. In the United States, more than 8 billion birds are produced yearly with a value exceeding $20 billion. Broiler chickens are the largest segment of the industry. Birds raised under commercial conditions are vulnerable to environmental exposure to a number of pathogens. Therefore, disease prevention by vaccination is an integral part of flock health management protocols. Active immunization using live vaccines is the current industry standard. Routinely used vaccines in chickens include MDV, NDV, IBV, and IBDV, and in turkeys NDV and HEV. Newer vaccines, including molecular recombinants in which genes of immunogenic proteins from infectious agents are inserted into a live viral vector, are also being examined for commercial use. Efforts are under way to enhance vaccine efficacy by the use of adjuvants, particularly cytokines. The vaccine delivery systems include in ovo injection, aerosol, spray, drinking water, eye drop, and wing web injection. The in ovo vaccination procedure is relatively new and at the present time it is used primarily to vaccinate broiler chickens against MDV. Birds respond to vaccines by developing humoral and cellular immune responses. Bursa of Fabricius and the thymus serve as the primary lymphoid organs of the immune system. B cells use surface immunoglobulins as antigen receptors and differentiate into plasma cells to secrete **antibodies**. Three classes of **antibodies** are produced: IgM, IgG (also called **IgY**), and IgA. Successful vaccinal response in a flock is often monitored by demonstrating a rise in **antibody titer** within a few days of vaccination. ELISA is used most commonly for serologic monitoring. T cells are the principal effector cells of specific cellular immunity. T cells differentiate into alpha beta and gamma delta cells. In adult birds, gamma delta cells may constitute up to 50% of the circulating T cells. Functionally, CD4+ cells serve as helper cells and CD8+ cells as cytotoxic/suppressor cells.

L28 ANSWER 21 OF 37 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.DUPLICATE 10
1999132514 EMBASE Detection and serological relationships of cymbidium mosaic

potexvirus isolates. Vejaratpimol R.; Channuntapipat C.; Pewnim T.; Ito K.; Iizuka M.; Minamiura N.. R. Vejaratpimol, Faculty of Science, Silpakorn University, Nakorn Pathorn 73000, Thailand. Journal of Bioscience and Bioengineering 87/2 (161-168) 1999.
Refs: 25.
ISSN: 1389-1723. CODEN: JBBIF6. Pub. Country: Japan. Language: English. Summary Language: English.

AB Twenty-two isolates of Cymbidium mosaic virus (CyMV) were isolated from 35 orchid plants suspected of being infected with CyMV. Among the three methods used for detecting CyMV, immunoelectron microscopy (IEM-1) was shown to be the most sensitive method, being able to detect the virus in 71.43% of suspected CyMV-infected plants while the electron microscopic method and the indexing plant method could detect 51.43 and 42.86%, respectively. Out of 12 symptomless plants investigated, 25% were found by IEM-1 method to be infected with the virus. Purified CyMV were flexuous rods having lengths between 470-490 nm. A few end-to-end aggregates were also observed and the 280/260 absorbance ratios were from 0.884 to 0.929. The yield of CyMV was 31.07 to 44.09 mg per kg of Datura leaves. **Antibodies** against purified CyMV D2 were produced in rabbits and hens. The **antibody titers** in the yolk and sera of hens indicated that 0.5 mg of virus per immunization efficiently generated an abundant supply of **IgY** in the yolk, however 1 mg of virus per immunization gave a stronger immune response in both sera and yolk. The average yields of **IgY** were 6.5 .+-. 0.6 and 9.4 .+-. 0.9 mg/ml of yolk in the group that received 0.5 mg and the group that received 1.0 mg of the virus, respectively. Positive ELISA reactions were observed in 18 and 20 of 22 CyMV isolates when detected with rabbit IgG and **IgY**, respectively, demonstrating that those isolates were serologically related and the ELISA reactions were shown to be stronger with **IgY** than those with rabbit IgG in most isolates. The degree of reaction between the CyMV isolates, O2 and O4, and **IgY** was less than that of the other isolates. The two isolates, D6 and Cat6, gave negative reactions to rabbit IgG. The results of ELISA assays showed that the homologous serological reaction was not consistently stronger than the heterologous one. Twelve isolates out of twenty-two gave stronger reactions than the homologous antigen (CyMV D2) when **IgY** was used as the detecting **antibody** while nine isolates gave stronger reactions when using rabbit IgG. No reactions were observed with other plant viruses and plant proteins from healthy Datura.

L28 ANSWER 22 OF 37 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.

1998393101 EMBASE Development of snake antivenom **antibodies** in chickens and their purification from yolk. Almeida C.M.C.; Kanashiro M.M.; Rangel Filho F.B.; Mata M.F.R.; Kipnis T.L.; Dias da Silva W.. C.M.C. Almeida, Univ. Estadual do Norte Fluminense, Laboratorio Biologia Reconhecer-CBB, Av. Alberto Lamego, 28015-620 Campos dos Goytacazes-RJ, Brazil. Veterinary Record 143/21 (579-584) 21 Nov 1998.
Refs: 28.
ISSN: 0042-4900. CODEN: VETRAX. Pub. Country: United Kingdom. Language: English. Summary Language: English.

AB Adult white leghorn hens hyperimmunised with Brazilian snake venoms of the genus Bothrops and/or Crotalus produced **antibodies** capable of recognising, combining with and neutralising the toxic and lethal components of the venoms. The **antibodies** were first detected by an enzyme-linked immunosorbent assay two weeks after starting the immunisation schedule, reached the highest titres by the third week and remained high for at least 24 weeks. These **antibodies** are transferred to the egg yolk from which they were isolated as enriched **IgY** preparations by a combination of methods using positive and negative precipitation with sodium sulphate and/or caprylic acid. The yolk-derived **IgY** preparations contained **antibodies** which blocked the phospholipase A2-dependent haemolytic activity of both

venoms and the haemorrhagic activity of Bothrops venom, and neutralised the toxic lethal activities of the venoms with good efficacy. The median effective dose (ED50) of the **IgY** anti-Bothrops venom was 592.5 .mu.l/2LD50 and, 1.0 ml neutralised 0.0675 mg of venom. The ED50 of the **IgY** anti-Crotalus venom was 457.5 .mu.l/3LD50 and 1.0 ml neutralised 0.075 mg of venom.

L28 ANSWER 23 OF 37 CAPLUS COPYRIGHT 2003 ACS
1998:320353 Document No. 129:107699 Isolation of egg yolk immunoglobulins (**IgY**) by chloroform polyethylene glycol technique and assaying of **antibodies** against avian infectious bronchitis. Shafiq, M. K.; Afzal, H.; Khanum, N.; Arshad, M. (Department of Vet. Microbiology, Poultry Disease, University of Agriculture, Faisalabad, 38040, Pak.). Veterinary Medical Journal Giza, 45(3), 273-278 (English) 1997. CODEN: VMJGEA. ISSN: 1110-1423. Publisher: Cairo University, Faculty of Veterinary Medicine.
AB The present research study was conducted to isolate the chicken egg yolk Igs (**IgY**) by chloroform polyethylene glycol (CPEG) technique and measure **antibody titers** against avian infectious bronchitis (AIB). For this purpose 300 eggs of broiler breeder were procured from 10 different flocks (30 eggs from each), at least 3 to 4 wk post-vaccination against avian infectious bronchitis (AIB). The yolk of 3 eggs was pooled and subjected to the isolation of **IgY** by CPEG technique. The concn. of purified **IgY** was quantified by spectrophotometer and **antibody titers** against AIB were measured through hemagglutination inhibition (HI) test. Mean concn. of **IgY** in different flocks ranged from 2.65 to 3.70 g/dL with overall mean of 3.24 g/dL. The geomean **antibody titers** (GMT) against AIB ranged from 147 to 388 with cumulative GMT of 256. Correlation between concn. of **IgY** and AIB **antibody titers** was computed to be 0.88.

L28 ANSWER 24 OF 37 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 11
1998:33708 Document No.: PREV199800033708. **Antibodies** from chicken eggs as probes for antigens from Pasteuria penetrans endospores. Chen, S. Y. (1); Charnecki, J.; Preston, J.; Dickson, D. W.; Rice, J. D.. (1) Univ. Minnesota, Southern Experiment Station, 35838 120th St., Waseca, MN 56093-4521 USA. Journal of Nematology, (Sept., 1997) Vol. 29, No. 3, pp. 268-275. ISSN: 0022-300X. Language: English.
AB The bacteria Pasteuria spp. have been identified as among the most promising of several microbial organisms currently under investigation as biological control agents of plant-parasitic nematodes. As part of our goal to develop methods to discriminate isolates of Pasteuria penetrans with different host preferences, we investigated the potential of developing **antibody** probes to identify endospores of different isolates of P. penetrans. Polyclonal **IgY antibodies** were raised in chickens against endospores of P. penetrans isolates P20 and P100. Hens were injected with P20 or P100 endospore suspensions and boosted at 14 days. Anti-spore **titers** were determined with ELISA on yolk extracts of individual eggs as a function of time. The highest **titers** were found in eggs produced at 22 to 35 days after initial injections. Yolk extracts showing the highest **titers** were combined and processed to provide partially purified **IgY** preparations. SDS-PAGE and immunoblot analyses identified protein antigens with Mr values of 23-24, 46, and 57-59 KDa common to both P20 and P100 endospores. One protein antigen with an Mr value of 62 KDa was unique to the P100 endospores. The **IgY antibodies** reduced the attachment of Pasteuria endospores to their nematode hosts, indicating **antibody** interaction with antigens on the endospore surface that are involved in the recognition and attachment processes.

L28 ANSWER 25 OF 37 CAPLUS COPYRIGHT 2003 ACS
1996:705684 Document No. 125:338997 Neutralizing antitoxins for treatment of verotoxin-producing Escherichia coli. Carroll, Sean B.; Stafford, Douglas C.; Padhye, Nisha V. (Ophidian Pharmaceuticals, USA). PCT Int. Appl. WO 9630043 A1 19961003, 100 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-US4093 19960325. PRIORITY: US 1995-410058 19950324.

AB Antitoxins which neutralize the pathol. effects of enterohemorrhagic Escherichia coli toxins are generated by immunization of chicken hosts with recombinant toxin fragments. Thus, high **titer** verotoxin **antibodies** were generated in laying hens hyperimmunized with either recombinant E. coli O157:H7 verotoxin VT1 or VT2 (rVT1 and rVT2) treated with glutaraldehyde and mixed with adjuvant. Toxin-reactive polyclonal **antibodies** (**IgY**) were isolated from egg yolks using a 2-step polyethylene glycol bulk fractionation procedure. Enzyme immunoassay (EIA) and Western blot anal. showed that the resulting egg prepns. contained high **titer IgY** that reacted with both the immunizing and the heterologous toxins. Vero cytotoxicity of rVT1 and rVT2 could be completely inhibited by VT **IgY**, and the **antibodies** also demonstrated substantial verotoxin cross-neutralization. The efficacy of verotoxin **antibodies** was demonstrated using multiple murine disease models, showing that **antibodies** prevented both the morbidity and lethality of homologous and heterologous toxins using a toxin/antitoxin premix format. Mice infected orally with a LD of viable E. coli O157:H7 were protected from both morbidity and lethality when treated parenterally 4 h post-infection with either rVT1 or rVT2 **antibodies**, and mice given a LD of E. coli O91:H21 and treated parenterally up to 10 h later with rVT1 **IgY** administered parenterally were also protected from both morbidity and lethality. These antitoxins are useful in the treatment of humans and other animals intoxicated with at least one bacterial toxin, as well as for diagnostic assays to detect the presence of toxin in a sample. Verotoxin genes (A and B subunits alone and together as whole toxins) were expressed in suitable prokaryotic expression systems to achieve high levels of VT antigen prodn.

L28 ANSWER 26 OF 37 MEDLINE DUPLICATE 12
95299190 Document Number: 95299190. PubMed ID: 7780179. Expression of two new protein isoforms of the neurofibromatosis type 1 gene product, neurofibromin, in muscle tissues. Gutmann D H; Geist R T; Rose K; Wright D E. (Department of Neurology, Washington University School of Medicine, St. Louis, Missouri 63110, USA.) DEVELOPMENTAL DYNAMICS, (1995 Mar) 202 (3) 302-11. Journal code: 9201927. ISSN: 1058-8388. Pub. country: United States. Language: English.

AB The neurofibromatosis type 1 (NF1) gene encodes a tumor suppressor protein, termed neurofibromin, which is expressed predominantly in neurons, Schwann cells, oligodendrocytes, and leukocytes. There are at least three isoforms of neurofibromin produced by the alternative use of exons 23a and 48a. Previously we described the identification of an NF1 mRNA isoform containing an additional 54 nucleotides from exon 48a (type 3 NF1) in human skeletal, cardiac and smooth muscle tissues by reverse-transcribed (RT)-PCR. To extend our initial observations, we have produced high **titer** chicken **IgY antibodies** which specifically recognize this muscle-specific neurofibromin isoform. An NF1 cDNA was generated containing human exon 48a sequences and expressed as a fusion protein in bacteria. The muscle-specific neurofibromin **antibodies** detected this exon 48a fusion protein by Western immunoblotting. Immunoprecipitation using these type 3

neurofibromin **antibodies** also specifically detected a 250 kDa protein in human and rat muscle tissues. Type 3 neurofibromin was found in rat heart and muscle, but not in liver brain, kidney or spleen with levels of expression declining after postnatal day 7. Expression of total NF1 RNA during rat embryonic development was detected at high levels in E15 heart, tongue, and limb bud. In addition, using type 2 neurofibromin-specific **antibodies**, the existence of a fourth isoform of neurofibromin (type 4 neurofibromin) containing both exon 23a and 48a sequences was demonstrated in rat heart muscle tissues. The identification of two muscle-specific isoforms of neurofibromin expands our definition of this important tumor suppressor protein and suggests additional roles for neurofibromin in muscle development and differentiation.

L28 ANSWER 27 OF 37 MEDLINE DUPLICATE 13

93372481 Document Number: 93372481. PubMed ID: 7764069. Oral passive immunization effect of anti-human rotavirus **IgY** and its behavior against proteolytic enzymes. Hatta H; Tsuda K; Akachi S; Kim M; Yamamoto T; Ebina T. (Central Research Laboratories, Taiyo Kagaku Co., Ltd., Mie, Japan.) BIOSCIENCE, BIOTECHNOLOGY, AND BIOCHEMISTRY, (1993 Jul) 57 (7) 1077-81. Journal code: 9205717. ISSN: 0916-8451. Pub. country: Japan. Language: English.

AB The neutralization **titer** of anti-human rotavirus (HRV) **IgY** was completely inactivated by pepsin at pH 2.0. However, it was not significantly affected by trypsin or chymotrypsin under certain conditions. The immunological activity of the **IgY** was observed in the intestine of suckling mice for 2 h after oral administration and the activity rapidly decreased thereafter. The effects of oral supply of **IgY** were thus estimated for HRV-induced diarrhea in suckling mice and it was found that a previous supply of the **IgY** (1 h before HRV infection) completely prevented the HRV-induced diarrhea. The preventive effect was decreased as the time gap between **IgY** administration and HRV infection was longer. However, the oral supply of the **IgY** within 24 h after HRV infection was still effective and decreased the incidence of HRV diarrhea in suckling mice.

L28 ANSWER 28 OF 37 MEDLINE DUPLICATE 14

93222539 Document Number: 93222539. PubMed ID: 7764050. Productivity and some properties of egg yolk **antibody** (**IgY**) against human rotavirus compared with rabbit IgG. Hatta H; Tsuda K; Akachi S; Kim M; Yamamoto T. (Central Research Laboratories, Taiyo Kagaku Co., Ltd., Mie, Japan.) BIOSCIENCE, BIOTECHNOLOGY, AND BIOCHEMISTRY, (1993 Mar) 57 (3) 450-4. Journal code: 9205717. ISSN: 0916-8451. Pub. country: Japan. Language: English.

AB Productivity and some properties of anti-Human Rotavirus (HRV) hen egg yolk **antibody** (**IgY**) were compared with those of anti-HRV rabbit serum **antibody** (IgG). The hens immunized with HRV (Wa strain, serotype 1 and Mo strain, serotype 3) were found to continuously to lay eggs without any change in the egg laying rate and the yolk of the eggs laid over a year showed a high level of neutralization **titer** against HRV. The production of anti-HRV **IgY** by a hen (one year) was at least 15 times (anti-Wa) and 120 times (anti-Mo) more effective than those by an immunized rabbit in the neutralization **titer** of the **antibodies**. The stability of anti-HRV **IgY** at temperature above 70 degrees C and low pH 2-3 was less than that of anti-HRV rabbit IgG. The temperature corresponding to the maximum of denaturation endotherm (Tmax) of **IgY** was 73.9 degrees C while that of rabbit IgG was 77.0 degrees C in the analysis by differential scanning calorimetry. This discrepancy in heat and acidic pH stability found between the two **antibodies** as discussed with regard to their protein structures.

L28 ANSWER 29 OF 37 SCISEARCH COPYRIGHT 2003 ISI (R)

93:710097 The Genuine Article (R) Number: MH736. PASSIVE PROTECTION AGAINST BOVINE ROTAVIRUS-INDUCED DIARRHEA IN MURINE MODEL BY SPECIFIC IMMUNOGLOBULINS FROM CHICKEN EGG-YOLK. KUROKI M (Reprint); IKEMORI Y; YOKOYAMA H; PERALTA R C; ICATLO F C; KODAMA Y. IMMUNOL RES INST, 839-1 SANO, GIFU, GIFU 50111, JAPAN (Reprint). VETERINARY MICROBIOLOGY (OCT 1993) Vol. 37, No. 1-2, pp. 135-146. ISSN: 0378-1135. Pub. country: JAPAN. Language: ENGLISH.
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Chicken egg yolk immunoglobulins (yIg) specific against bovine rotavirus (BRV) serotypes 6 (strain Shimane) and 10 (strain KK-3) were used for oral passive immunization of suckling mice against experimental BRV challenge. The protective capacity of the **antibody** preparation was tested using different concentrations of yIg against a challenge dose of 10(7.5) TCID50 for Shimane and 10(7.0) TCID50 for KK-3 strain. There was a significant homotypic ($P<0.05$) and heterotypic ($P<0.01$) protection using 160 anti-Shimane or 160 anti-KK-3 neutralizing **antibody titer** (NAT) compared to control mice given yIg derived from eggs of mock-immunized (control) hens. The **titer** of infectious BRV recovered from intestinal tissue or luminal chyme decreased with increasing homotypic yIg NAT. A decrease in degree and duration of BRV antigen localization in the villus epithelial lining was observed in mice treated with homotypic yIg at optimum dose for prevention of diarrhea. The NAT in sera of challenged mice increased with decreasing NAT in the yIg given before challenge suggesting that protection was dose-dependent. The present findings indicate that a passive protection could be achieved by the use of yIg against BRV-induced diarrhea in this murine model.

L28 ANSWER 30 OF 37 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 15

1993:343483 Document No.: PREV199396040483. Extraction of specific **antibodies** from yolk of hen eggs: An attractive, dry alternative to collection of specific **antibodies** from mammals. Schade, R. (1); Hlinak, A.. (1) Inst. fuer Pharmakol. Toxikol., PF 140, O-1040 Berlin. Monatshefte fuer Veterinaermedizin, (1993) Vol. 48, No. 2, pp. 91-98. ISSN: 0026-9263. Language: German. Summary Language: German; English.

AB Because of a growing interest in animals welfare in biomedical research so called alternative methods have been developed which include the extraction of specific **antibodies** (AB) from chicken egg yolk (**IgY**), too. This method objectively reduces animal's pain since blood sampling as a base for AB-preparation is replaced by egg sampling. A further advantage e.g. is the amount of specific AB extractable from eggs. Based on a period of one month a multiple of specific AB can be obtained from chickens in comparison to rabbits. The paper presented describes some aspects of the method in detail as e.g. immunization of chickens, **IgY**-extraction procedures, and given information about AB-**titer** development in chickens. Furthermore, the paper compares properties of avian AB with those of mammalian AB, informs on antigen species and amount of them successfully used for **IgY**-production, describes fields of **IgY**-application as well as immunological methods suited to use **IgY** AB instead of mammalian IgG AB. This paper was aimed to illustrate these attractive alternative in detail as a base material suited to stimulate the interest of potential users.

L28 ANSWER 31 OF 37 CAPLUS COPYRIGHT 2003 ACS

1992:56985 Document No. 116:56985 Characterization of polyclonal **antibodies** to cell-surface antigens from ovine adipose tissue. Tume, Ronald K. (Div. Food Process., CSIRO, Cannon Hill, 4170, Australia). Biochemistry International, 25(2), 221-32 (English) 1991. CODEN: BIINDF. ISSN: 0158-5231.

AB High **titers** of polyclonal **antibodies** to specific

proteins of ovine adipose tissue plasma membranes were raised in horses and chickens following repeated injections of purified plasma membranes. Horse antiserum was highly species specific, reacting only weakly with rat adipose tissue plasma membranes. A protein of mol. wt. 68,000 was most antigenic in that it was readily pptd.; however proteins of 25,000, 82,000 and 94,000 were also pptd. when the reaction was performed for longer times with a higher antiserum concn. Chicken egg yolk **IgY** reacted strongly with ovine adipose tissue plasma membranes, as did those prepns. from horse, but **IgY** was ineffective in immunopptg. solubilized membrane proteins and exhibited no cytotoxic reaction when incubated with intact ovine adipocytes. However, horse antiserum produced a strong complement-dependent cytotoxic reaction with ovine adipocytes, as measured by leakage of lactate dehydrogenase. This work suggests that the membrane protein of mol. wt. 68,000 is likely to be an important antigenic marker for ovine adipocytes.

L28 ANSWER 32 OF 37 CAPLUS COPYRIGHT 2003 ACS
1990:550178 Document No. 113:150178 Isolation of **IgY** from the yolks of eggs by a chloroform polyethylene glycol procedure. Polson, A. (Dep. Obstet. Gynaecol., Tygerberg Hosp., Tygerberg, 7505, S. Afr.). Immunological Investigations, 19(3), 253-8 (English) 1990. CODEN: IMINEJ. ISSN: 0882-0139.

AB By shaking a dil. suspension of egg yolk with chloroform followed by low speed centrifugation (1500 g for 30 min) the water sol. proteins which include chicken IgG (**IgY**) sep. from the emulsion of chloroform and lipophilic substances. The **IgY** may then be sepd. from the assocd. water sol. proteins by pptn. with 12% PEG Mr 6000. The method called the chloroform-PEG procedure was compared with the PEG procedure which is currently being used. The chloroform-PEG method yielded 2.57-folds more **IgY** than the conventional PEG method. The ratio of **titers** of **IgY** anti Jasus lalandii hemocyanin **antibody** purified by the 2 procedures was very nearly 2.57 indicating that the chloroform had no adverse effect on the **antibody** activity.

L28 ANSWER 33 OF 37 MEDLINE DUPLICATE 16
89358185 Document Number: 89358185. PubMed ID: 2504668. Steep gradients of inert substances as supports for precipitin reactions. Polson A; Maass R. (Department Obstetrics and Gynaecology, Tygerberg Hospital, Rep. of South Africa.) IMMUNOLOGICAL INVESTIGATIONS, (1989 Jul) 18 (6) 797-815. Journal code: 8504629. ISSN: 0882-0139. Pub. country: United States. Language: English.

AB Precipitin reactions were conducted in the wells of micro **titer** plates and the light "absorbance" at 405nm plotted as a function of the neg log2 dilutions of the antigens using the Titertek Multiscan apparatus. The procedure followed was to incorporate **antibody** in 20% sucrose and to diffuse the mixture into serial two-fold dilutions of antigen overlaid on the sugar-**antibody** columns in the wells. Where the antigen met its **antibody** in equivalence precipitin bands formed. The bands of precipitates remained suspended. The precipitates formed by mixing the **antibody** sugar mixture with the serial two-fold dilutions of the antigen were also recorded in the Titertek Multiscan apparatus. Tobacco mosaic virus and its **IgY** type **antibody** produced simoidal precipitin curves with the layering as well as the mixing techniques. The haemocyanin of the whelk and its **IgY antibody** yielded a precipitin diagram with the layering technique which gave evidence to three antigens. The three antigens in the haemocyanin was confirmed by two dimentional Laurell-electrophoresis. Semi-purified human colostral dimeric IgA and its **IgY antibody** produced a precipitin diagram which showed evidence of four of five antigens. With the mixing technique a single precipitin maximum was obtained preceded by a prozone. Rabbit Ig and its

IgY antibody gave a precipitin curve with two maxima. The precipitin curve obtained when the reagents were mixed had one peak preceded by a prozone.

L28 ANSWER 34 OF 37 CAPLUS COPYRIGHT 2003 ACS
1981:28708 Document No. 94:28708 **Antibodies** to proteins from yolk of immunized hens. Polson, A.; Von Wechmar, M. Barbara; Fazakerley, Gina (Dep. Microbiol., Univ. Cape Town, Rondebosch, S. Afr.). Immunological Communications, 9(5), 495-514 (English) 1980. CODEN: IMLCAV. ISSN: 0090-0877.
AB Laying hens were immunized with a variety of proteins ranging in mol. wt. from 8 .times. 106 to >2 .times. 104 and **IgY antibodies** were extd. from the egg yolks. High **titers** of **antibodies** were produced to antigens of proteins with mol. wts. higher than that of human IgG, whereas antigens with lower mol. wts. elicited poor responses. Using the low mol. wt. antigens, optimal precipitin reactions required a 1.5M NaCl concn.

L28 ANSWER 35 OF 37 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 17
1981:182566 Document No.: BA71:52558. ISOLATION OF VIRAL IMMUNO GLOBULIN Y **ANTIBODIES** FROM YOLKS OF IMMUNIZED HENS. POLSON A; VON WECHMAR M B; VAN REGENMORTEL M H V. DEP. MICROBIOL., UNIV. CAPE TOWN, RONDEBOSCH 7700, S. AFR.. IMMUNOL COMMUN, (1980) 9 (5), 475-494. CODEN: IMLCAV. ISSN: 0090-0877. Language: English.
AB **Antibodies** were isolated from the yolks of hens that were immunized with a variety of plant viruses [tobacco mosaic virus, bromegrass mosaic virus, turnip yellow mosaic virus, sunn-hemp mosaic virus, broadbean mottle virus, pine emperer moth Nauderelia cytherea cytherea B virus and cowpea cholorotic mottle virus] by the use of polyethylene glycol (PEG). A concentration of 3.5% of the polymer caused the lipids and vitellin to separate, and the **IgY** was then precipitated with 12% PEG. The **titer** of the isolated **antibody** appears to remain at a high level after cessation of the immunization course. **Antibodies** derived from hen yolks appear to have **titers** similar to those found in serum of rabbits immunized simultaneously. The observation that a high salt concentration enhances fowl serum **antibody** precipitin **titers** could not be corroborated with yolk **antibodies** directed against several plant viruses. Yolks of immunized hens may serve as source of specific antigens.

L28 ANSWER 36 OF 37 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
77014309 EMBASE Document No.: 1977014309. Synthesis of immunoglobulin and Marek's disease virus **antibody** in susceptible and relatively resistant chickens. Kermani Arab V.; Moll T.; Davis W.C.. Dept. Veter. Microbiol., Coll. Veter. Med., Washington State Univ., Pullman, Wash. 99163, United States. Journal of the National Cancer Institute 56/1 (149-152) 1976.
CODEN: JNCIAM. Language: English.
AB The levels of IgM, **IgY**, and IgA and the development of specific **antibody** to Marek's disease virus (MDV) and sheep red blood cells (SRBC) in young chickens susceptible and resistant to Marek's disease were compared after exposure to MDV. No significant difference was noted in the immunoglobulin levels. However, the **antibody** response to MDV and SRBC occurred more rapidly in susceptible birds. The initial **titer** of **antibody** to these antigens was higher. These differences in response, however, were transient. At 3 weeks post exposure, the levels of IgM **antibodies** to MDV and **antibodies** to SRBC were similar in the two lines of chickens. At 6 weeks, the levels of **IgY antibodies** to MDV and **antibodies** detected by the agar gel precipitation test were similar.

L28 ANSWER 37 OF 37 MEDLINE

76146629 Document Number: 76146629. PubMed ID: 1255743. Synthesis of immunoglobulin and Marek's disease virus **antibody** in susceptible and relatively resistant chickens. Kermani-Arab V; Moll T; Davis W C. JOURNAL OF THE NATIONAL CANCER INSTITUTE, (1976 Jan) 56 (1) 14.-52. Journal code: 7503089. ISSN: 0027-8874. Pub. country: United States. Language: English.

AB The levels of IgM, **IgY**, and IgA and the development of specific **antibody** to Marek's disease virus (MDV) and sheep red blood cells (SRBC) in young chickens susceptible and resistant to Marek's disease were compared after exposure to MDV. No significant difference was noted in the immunoglobulin levels. However, the **antibody** response to MDV and SRBC occurred more rapidly in susceptible birds. The initial **titer** of **antibody** to these antigens was higher. These differences in response, however, were transient. At 3 weeks post exposure, the levels of IgM **antibodies** to MDV and **antibodies** to SRBC were similar in the two lines of chickens. At 6 weeks, the levels of **IgY antibodies** to MDV and **antibodies** detected by the agar gel precipitation test were similar.

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FILE 'MEDLINE, EMBASE, BIOSIS, SCISEARCH, CAPLUS' ENTERED AT 09:16:00 ON 06 FEB 2003

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L1       167330 S THIN LAYER CHROMATOGRAPHY OR TLC
L2           67 S L1 AND (TRICHLORPHENOXYACETIC ACID OR 2,4,5-T OR TRICHLOROBEN
L3           19 S L2 AND SILICA GEL
L4            0 S L3 AND CHLOROFORM
L5           51 DUP REMOVE L2 (16 DUPLICATES REMOVED)
L6           15 DUP REMOVE L3 (4 DUPLICATES REMOVED)
L7            0 S L2 AND TOLIDINE
L8         7541 S (TRICHLOROPHENOXYACETIC ACID OR TRICHLOROBENZENE HAPTEN OR 2,
L9           17 S L8 AND ALANINE
L10           0 S L9 AND DICHLOROMETHANE
L11           0 S L9 AND HYDROXYSUCCINIMIDE
L12          97 S L8 AND CONJUGATE
L13           0 S L12 AND BETA ALANINE
L14           2 S L12 AND DICYCLOHEXYLCARBODIIMIDE
L15           2 DUP REMOVE L14 (0 DUPLICATES REMOVED)
L16           0 S L12 AND DIMETHYLAMINIPYRIDINE CATALYST
L17           0 S L12 AND DICHLOROMETHANE
L18         260 S EGG ANTIBODY
L19          35 S L18 AND TITER
L20           0 S L19 AND "165-225 MG/ML"
L21          21 DUP REMOVE L19 (14 DUPLICATES REMOVED)
L22     2393833 S ANTIBODY
L23         954 S L22 AND IGY
L24         549 S L23 AND EGG YOLK
L25           0 S L24 AND MG/ML
L26           0 S L24 AND 165
L27          70 S L23 AND TITER
L28          37 DUP REMOVE L27 (33 DUPLICATES REMOVED)
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L29           0 L24 AND PESTICIDES
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